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How Expository Text Structure Instruction Effects Reading Comprehension

By

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A Graduate Field Experience

Submitted in Partial Fulfillment of the

Requirements for the Degree of

Master of Arts

Language and Literacy

At Cardinal Stritch University

Milwaukee, Wisconsin

2015

This Graduate Field Experience
for **Jamie Utecht**
has been approved for
Cardinal Stritch University by

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12/2/15
(Date)

Abstract

The purpose of this study was to determine the effect of compare/contrast and cause/effect text structure instruction on fifth grade readers' comprehension of expository text. Three fifth grade students participated in this eight-week study. During the study, the participants met with the researcher thirty minutes a day, five times a week for eight weeks. The focus of the intervention was the compare and contrast and cause and effect text structures. The students learned about the specific text structures by reading leveled passages, identifying target words, and completing a graphic organizer. The results suggested that the participants' demonstrated growth in expository reading comprehension and knowledge of compare and contrast and cause and effect text structures, but not statistically significantly.

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CHAPTER ONE: INTRODUCTION

As a reading specialist, I am required to perform reading assessments on struggling readers, kindergarten through eighth grade, at the beginning of the school year. One of the benchmark assessments used is the Fountas and Pinnell Benchmark Assessment (Fountas & Pinnell, 2011). For the Fountas and Pinnell Benchmark Assessment, students are able to pick a fiction or nonfiction text to read and analyze. Students enjoy the nonfiction books because of the interesting topics and colorful pictures. As students read the texts, they become very interested in the new topics. After reading the text, the students are responsible for answering within the text, about the text, and beyond the text questions. An example of a within the text question would be "What did you learn about spiders from reading this text?" An example of a beyond the text question would be "Why do you think people are afraid of spiders?" An example of an about the text question would be "Why is the title *Spider Myths* a good title for this book?" From my observations, I have learned that students struggle with the about the text and beyond the text questions following a nonfiction text read. Students are able to identify ideas that are right there in the text, but they are not able to connect and combine ideas after reading the text. When students are not able to synthesize their ideas with complex expository texts, their reading comprehension can be affected. This problem could be due to lack of background knowledge, vocabulary, or lack of instruction on expository text. There is evidence that current standards, curriculum, and instructional practice have not been effective in preparing students to independently read complex texts, particularly in the area of informational texts (National Governors Association Center for Best Practices [NGA Center] & Council of Chief State School Officers

[CCSSO], 2010). The lack of instruction on expository text structure has become an interest of mine particularly in the area of expository text structure instruction. I wanted to investigate in greater depth this topic and investigate it further because of the multiple patterns used to represent relationships within one piece of text (Meyer & Poon, 2001; Zweiers, 2010) and the knowledge that the compare and contrast (Williams et al., 2009) and cause and effect (Williams, Nubla-Kung, Pollini, Stafford, Garcia, & Snyder, 2007) text structures present greater challenges than other text structures. This is why I decided to investigate the effects of expository text structure instruction that focused on the compare and contrast and cause and effect text structures.

Connection to Research

Well-written expository text has an internal structure that aids in the readers' comprehension of the text. Some of the aids are obvious text features including headings, captions, and bold print, while others represent the way the information is organized (Duffy, 2014). Readers who understand a text's organizational structure typically find greater success in identifying important information and relationships between ideas (Hall, Sabey, & McClellan, 2005). The knowledge of text structures is essential for reading comprehension to occur, especially when readers have little background knowledge or experience of the topics, which is often the case with content area reading (Carnahan & Williamson, 2013).

Being a good reader means anticipating in advance things like text structure so information can be located quickly and efficiently (Duffy, 2014). Williams et al. (2005) found that students who receive text structure instruction not only learn what they were taught but they were also able to transfer what they had learned to content beyond what

was used in instruction. These findings suggested that they were not merely teaching them the content of the instructional program but also how to process a particular type of expository text.

According to the Common Core State Standards (National Governors Association Center for Best Practices [NGA Center] & Council of Chief State School Officers [CCSSO], 2010), by the end of fourth grade students should be able to describe the overall structure of events, ideas, concepts, and information in the text, or part of the text. According to the National Governors Association Center for Best Practices & Council of Chief State School Officers, students should also be able to read and comprehend complex literary and informational texts independently and proficiently. Current trends suggest that if students cannot read the challenging texts with understanding, they will read less in general. Less exposure to complex texts will likely lead to less knowledge about topics, which, will bring a decline in the ability to comprehend complex texts. The expository text structures included in this standard include chronology, comparison, cause/effect, and problem/solution. Williams and colleagues suggested that the compare and contrast (Williams et al., 2009) and cause and effect (Williams, Nubla-Kung, Pollini, Stafford, Garcia, & Snyder, 2007) text structures presented a greater challenge than the other text patterns.

Overview of Project

Small group text structure instruction was implemented to test the effects of expository text structure instruction on struggling fifth grader's reading comprehension. The first week of the study was a benchmarking week where the researcher collected assessment data. The students were assessed using the Fountas and Pinnell Benchmark

Assessment System, Scholastic Reading Inventory (SRI; Scholastic, 2015), and AIMsweb MAZE. The Fountas and Pinnell Benchmark Assessment was used to determine the student's instructional reading level. This assessment was used to assess reading accuracy, fluency, and comprehension. The AIMsweb MAZE assessment was an additional comprehension measure. This assessment is a multiple-choice cloze task that students complete while silent reading. Every seventh word in the passage is replaced with three words in parenthesis. The student had to choose the correct word to complete the sentence. The SRI assessment was administered online and was used to determine the students' Lexile, or reading, level. After assessing, the students were introduced to the compare/contrast text structure by the researcher using picture books, instruction in compare/contrast target words (*as well as, also, too, like/unlike, similarly, same as, and alike/different)*, and a graphic organizer. This introduction was a week in duration and consisted of the researcher instructing the students on the compare/contrast text structure. The second week involved the students working together as a group analyzing different articles by searching for target words, as well as completing graphic organizers associated with the compare/contrast text structure. The researcher located the articles online from sites such as readwritethink.org, scholastic.com, and readworks.org. The fourth week was a week where the students independently worked on compare/contrast articles by finding target words and using a graphic organizer. This independent work time enabled the researcher to determine what the students have learned about this text structure. The students were then introduced to the cause/effect text structure in week five. The researcher instructed the students with this text structure through the use of picture books, target words (*so, so that, because, since, if…then, as a result of, and for*

this reason), and a graphic organizer. Students then worked in groups with this text structure in week six as they read cause/effect articles and found target words and filled out their graphic organizers. The next week the students worked independently with cause/effect articles as they found target words and completed their graphic organizers. This week demonstrated to the researcher what the students learned. The last week of the study was used for post assessment.

Key Terms:

Text Structure: How the information in a written text is organized

Text Complexity: How challenging a text is at a specific grade level

CHAPTER TWO: LITERATURE REVIEW

At risk students' difficulties with expository reading comprehension can stem from their difficulties with text structure knowledge. Expository text is organized into certain structures to reflect the connections between the ideas in the text. Students need to learn about the different expository text structures to be successful in the expository reading process (Williams, 2005). With a greater emphasis on expository text in the Common Core State Standards (National Governors Association Center for Best Practices (NGA Center) & Council of Chief State School Officers (CCSSO), 2010), students will need to be better prepared with text structure knowledge to comprehend expository text. The focus of the research in this chapter was on expository text comprehension with an emphasis on the compare/contrast and cause/effect text structure.

This chapter summarized studies that addressed the important questions pertaining to this action research project: What factors influence students' comprehension of expository text? What effect does embedding text-structure instruction into expository text instruction have on students' comprehension? What effect does explicit expository text instruction, specifically compare/contrast and cause/effect structures, have on elementary aged students? The first collection of research (Gilliam, Fargo, & Robertson, 2009; Kraemer, McCabe, & Sinatra, 2012; Kucan & Beck, 2003; DiCecco & Gleason, 2002; Hebert, Graham, Rigby-Wills, & Ganson, 2014; Stagliano & Boon, 2009) discusses factors that influence expository text comprehension. The second collection of research (Hall, Sabey, & McClellan, 2005; Meyer, Middlemiss, Theodorou, Brezinski, McDougall, & Bartlett, 2002; Meyer et al., 2010) discusses the influence of text-structure instruction on expository text comprehension. The third collection of

research (Williams et al., 2005; Williams et al., 2013; Carnahan & Williamson, 2013) discusses the effectiveness of teaching compare/contrast and cause/effect text structures on elementary students' comprehension of expository text.

Reading Comprehension of Expository Text

At the elementary level, comprehension instruction has focused heavily on narrative comprehension as opposed to expository comprehension. With the adoption of the Common Core State Standards (National Governors Association Center for Best Practices (NGA Center) & Council of Chief State School Officers (CCSSO), 2010), there has been a greater push for expository text comprehension instruction Hebert, Graham, Rigby-Wills, & Ganson, 2014). The studies in the following section focused on the importance of expository text comprehension instruction.

Gillam, Fargo, and Robertson (2009) examined the effects of the think-aloud strategy on expository reading comprehension. The researchers wanted to determine if implicit and explicit statements generated by students, with or without language impairments during reading affected reading comprehension and retelling. The independent variable was the think-aloud strategy while the dependent variables were the number of teacher created comprehension questions answered correctly as well as passage details recalled.

The study was conducted at one of two county schools in Tuscaloosa, AL. The participants included 40 fourth grade students who were identified as either typical language students or language impaired students. The typical language students could not have any history of special education services, did not repeat a grade at any point in their schooling, and had to have received a standard score between 85 and 115 on the

Clincal Evaluation of Language Fundamentals-3 (CELF-3; Semel, Wiig, & Secord, 2003) and Test of Nonverbal Intellegence-3 (TONI-3; Brown, Sherbenou, & Johnsen, 1997). The 20 students chosen as the typical language participants included 12 African American and 8 Caucasian students, 13 of which were female and 7 were male. The students ranged from 9.3 to 10.3 years old. All of the students had normal hearing and visual skills measured though school testing. The language-impaired students were screened using the system for the diagnosis of specific language impairment in kindergarten children (EpiSLI; Tomblin, 1996) where they earned a standard score between 75 and 125 on the TONI-3 as well as a standard score at or below 82 on the CELF-3. Students in this category were not included if they had a hearing, visual, gross neurological, emotional, or social impairment. The 20 students chosen as the language impaired students included 16 African American, 3 Caucasian, and 1 Hispanic student, 12 of which were female and 8 were male. The students ranged from 9.5 to 11.2 years old. All of the students were receiving special education services and two of the students repeated a grade in school.

The participants in this study were administered two tasks: a verbal working memory task and a think-aloud task. The verbal working memory task was used to measure the student's ability to simultaneously store and process verbal information. This task was a memory game where children heard sentences and then answered true or false to each sentence or statement. The statements were in sets including: three sets of two statements, three sets of three statements, and three sets of four statements. When a set of statements was finished, the students heard a chime and then were directed to recall the last word of each statement in the set. The students received one point for each

correct answer and were able to receive a maximum of 27 points in total. To monitor accuracy, all of the sessions were audiotaped.

A proctor administered the think-aloud task to the students. The passage was read aloud to the students in a one-on-one setting. The students were instructed to listen to two expository passages, one at a time, as the proctor read each one. The passages were descriptive expository texts that included science and social studies topics. They ranged in readability from 3.4 grade equivalent to 4.1 grade equivalent. After each sentence, the proctor would ask, "What do you know about the story now?" The students' comments were recorded and then transcribed and analyzed later to determine how many implicit and explicit statements were made. After listening to the entire passage, students were directed to answer comprehension questions (three implicit and three explicit) as well as retell the passage. The questions chosen for each passage were verified as implicit or explicit by a group of ten graduate students. The researchers, 10 graduate students, and independent raters who were highly trained analyzed all of the assessments. The researchers and two independent raters analyzed the verbal statements. The statements were classified as either being accurate or inaccurate.

The typical language students produced an average of approximately three inaccurate paraphrases, while the language impaired students produced an average of about seven paraphrases when retelling the text. The passage recall task and the comprehension questions were analyzed and scored by 10 graduate students. The graduate students used the Pearson correlation formula to determine the correlation between the think-aloud strategy and comprehension of the text. Typical language students had associations between comprehension questions answered correctly and

number of accurate paraphrases (r=.47, p=.036), explanatory statements (r=.36, p=.116), and inaccurate paraphrases (r=-.72, p<.001). Typical language students also had associations between passage details recalled correctly and number of explanatory statements (r=.39, p=.087), predictive statements (r=-.37, p=.109), and inaccurate paraphrases (r=-.40, p=.079). Language impaired students showed moderate associations between inaccurate paraphrases and number of comprehension questions answered correctly (r=-.42, p=.062), and number of passage details recalled correctly (r=-.47, p=.038). The correlation results demonstrated that paraphrase accuracy was significantly related to comprehension performance.

The researchers determined that the ability to paraphrase passage closely related to the ability to comprehend expository text based off of their research findings. They were able to use the think-aloud statements as evidence as to why a student was able to comprehend the passage or not. They were able to determine the student's reading process through the think-aloud statements. They also determined that students were more likely to paraphrase passages when retelling as opposed to repeat or infer the meaning behind the text. When students paraphrased, they used their memory in order to restate what was in the text. This study demonstrated that students use this strategy in order to process and comprehend text.

Unlike Gillam, Fargo, and Robertson (2009), Kraemer, McCabe, and Sinatra (2012) investigated the effects of listening to expository text on the listening comprehension and book choice of first-grade students. The four purposes of this study were to determine whether first-grade students were more likely to chose expository text for independent reading before or after exposure to this type of text in read-alouds, how

the students would perform on listening comprehension tests on narrative versus expository texts before the intervention, to examine the relationship between book choice and listening comprehension ability, and to determine if expository text read-alouds improved listening comprehension. The independent variable in this quasi-experimental study was the instruction: expository text read-alouds versus no read-alouds. The dependent variables included a book choice pre and posttest and a listening comprehension pre and posttest using the Qualitative Reading Inventory- 3 (QRI-3; Leslie & Caldwell, 2001).

The participants included seventy-seven first grade students (42 boys and 35 girls) from four heterogeneously grouped classes. Two classes with 37 students were assigned to the experimental condition (E1, E2), while two classes with 40 children were assigned to the control condition (C1, C2). None of the students in this sample received special education services. Approximately 97% of the sample had a family income above the poverty level. The demographics of the sample included 7% Hispanic, 4% African-American, 3% Asian or Pacific Islander, 84% Caucasian, and 2% were identified as racially mixed. The primary researcher performed the intervention with the experimental group. Information on the primary researcher was not provided.

The read-aloud procedure occurred during a four-week period, three times a week. The primary researcher performed the intervention with the experimental group in their classroom setting. The students were exposed to either an expository book or article during this visit. The read-alouds were conducted on a carpet or in the corner of the classroom. Each session began with a brief discussion regarding the topic of the read-aloud where they discussed what they already knew about the topic and what they were

interested in learning about. Throughout the read-aloud, the researcher would stop and allow students to share comments and questions about the book or article. After the read-aloud, the researcher would ask the students to share a few new things that they learned. The control group in this study did not receive visitations or readings by the primary researcher.

The assessments used in this study included a listening comprehension measure and a book choice measure. The listening comprehension measures were first-grade passages and questions from the QRI-3. This was an assessment used in the district, so results would be valuable for planning instruction beyond this study. The pretest passages were *Marva Finds a Friend* (narrative) and *Air* (expository). The posttest passages were *Mouse in a House* (narrative) and *What You Eat* (expository). The passages were read individually to the students and were followed with six open-ended comprehension questions. The book choice measure included three sets of two books, one set of narrative and the other expository text. The narrative texts were fictional stories usually fantasy or realism genres. The expository texts presented factual reports or explanation about topics. The books were chosen with the help of a college professor who had experience in teaching children's literature. Students were presented three pairs of primary-level books on the same topic, but one book was expository and the other was narrative. The students were able to view the books and then had a discussion with the researcher to ensure that they knew which text was narrative and which was expository. The student was then asked, "Which of these two books would you prefer to read or have someone read to you?" The children's responses were then recorded and analyzed.

The researchers analyzed teacher logs to determine if other in-class activities affected testing results. The teachers reported reading fifty-three books aloud, forty-nine were narrative and four were expository. The teachers read an average of 3.3 books aloud per week over a period of four weeks. Also, researchers analyzed the guided reading series to note additional text experiences of the children. Of the sixty-seven books in the series, twenty-four were expository and forty-three were narrative. The findings demonstrated that most of the instruction on expository text was conducted through the use of read-alouds at the time of the intervention.

On the book choice pretest, 59 of the 77 students chose expository versus narrative text. The book choice posttest findings revealed the same pattern. On the posttest, 58 out of the 77 students chose expository texts (one less during the pretest). Prior to the intervention period, the students' scores on the comprehension of narrative material were significantly higher than that of expository material (t (76) = 9.129, p= .000). A MANOVA score indicated a significant mean score change for both experimental and control groups. The experimental group increased from 2.89 (SD = 1.56) to 4.24 (SD = 1.36) while the control group decreased from 3.17 (SD = 1.43) to 2.63 (SD = 1.76). The scores indicated that reading expository text aloud to the experimental group increased students' listening comprehension, but did not affect student book choice.

In a like manner, Kucan and Beck (2003) conducted a study that compared the effects of two discourse environments on comprehension. The researchers designed three questions they wanted to consider: Is student comprehension of text ideas influenced by the discourse environment in which the text is read and talked about? Do different

discourse environments promote different kinds of talking and thinking about text? Does participation in a discourse environment have an impact on student thinking about text when they are no longer in the environment? Students were placed into groups based on scores on standardized tests of comprehension, teacher recommendations regarding how well students were able to engage in discussions, and results from a questionnaire designed to assess prior knowledge regarding the topics of the texts they would be reading. The independent variable was the learning environment: independent discourse environment versus small group discourse environment. In both conditions, the students read and discussed the same texts. The dependent variable was a think aloud task, a recall task, and comprehension questions after reading a passage.

Twenty-seven seventh-grade students from two parochial schools, St. Peter's and St. John's, located in a small city in West Virginia participated in this study. A majority of the students were from average-income households. Fourteen females and fourteen males, twenty-six Caucasian and one African American, participated in this study. Students' scores on standardized tests of comprehension, teacher recommendations regarding how well students were able to engage in discussions, and results from a questionnaire designed to tap prior knowledge regarding the topics of the texts the students would be reading were used to assign students into individual conditions. Fourteen students (mixed-gender groups of seven from each school) were assigned to the group condition, and thirteen students (male and female) were assigned to the individual condition. Seventh graders were selected for this study because they were expected to be competent readers with sufficient maturity to respond to prompts and articulate ideas.

This study consisted of four phases, which transpired over a seven-week period. The phases included: a preliminary phase, a pretest phase, an intervention phase, and a posttest phase. The goal of the preliminary phase was to recruit participants and collect information that would inform their assignment to individual and group conditions. During this phase, the first author met with the students to administer the prior knowledge questionnaire. The goals of the pretest and posttest phases were to determine whether participation in the intervention influenced how students discussed texts and how they were able to recall and respond to questions about texts. In the pretest/posttest phases, all students met with the first author individually to read a passage aloud and stop at predetermined points to think aloud about the text. After reading, the students were instructed to recall what they remembered about the selection and respond to questions. The testing sessions were audiotaped and transcribed. The goal of the intervention phase was to engage students in two discourse environments and to analyze the kind of talk that developed in each. There were three intervention sessions, one per week for three weeks. During each session, individuals and group members read a text aloud and stopped at predetermined places to respond to prompts from the researcher. The participants in the independent discourse environment consisted of an individual student and the investigator. The participants in the small group discourse environment consisted of a group of seven students and the investigator. The prompts to elicit talk about the texts in both groups included prompts such as "What do you understand so far?" or "What's going on here?" The texts students read were excerpts from contemporary children's nonfiction trade books: *Batman: Exploring the World of Bats* (Pringle, 1993), and *Big Cats* (Simon, 1991) for the pretest/posttest sessions, and *Bodies from the Past* (Place,

1995), *Frank Lloyd Wright* (Rubin, 1994), and *Pompeii and Herculaneum* (Hicks, 1995), for the three intervention sessions. The three intervention sessions were videotaped, audiotaped, and transcribed. After reading a selection, students in both conditions responded to after reading recall prompts and questions.

The data sources for this study included: student recalls and question responses, and transcripts of student talk. The student recalls were scores were the total number of content units mentioned by the students. The student question-response scores were the number of matched items for each question. Ninety-nine transcripts were analyzed: fifty-four individual pretest/posttest transcripts, six group discussion transcripts, and thirty-nine individual transcripts for types of talk and sequences of talk. There were three categories for the types of talk: personal, textual, and intellectual. Personal talk was talk that related to personal experience. Textual talk was talk that related to information that was in the text itself. Intellectual talk was talk that created an understanding of text ideas (interpretations, inferences, and questioning). Sequences of talk were the frequencies and percentages of student talk in the identified categories.

After analyzing student posttest data, the researchers determined that participation in a particular discourse environment did not affect individual students' ability to remember and answer questions about text. Statistically significant condition-related differences were not determined in posttest recall scores ($t(25) = -1.65$, $p = .112$) or posttest question-response scores ($t(25) = .05$, $p = .960$). Unlike the analyses of recall and question-answer scores, analyses of the transcripts of student talk during the pretest, posttest, and intervention sessions revealed important differences in the kinds of talk that developed in individual and group contexts. Students in the group condition engaged in

more intellectual talk than students in the individual condition: thirty-four percent for group members versus eleven percent for individuals. Individual students engaged in more textual talk than students in the group condition: eighty-two percent for individuals versus forty-six percent for group members. Group members also engaged in more refining and correcting of responses than individuals (twenty-seven percent versus eleven percent). The findings suggested that the presence of responsive others encouraged group members to question and extend their ideas.

Unlike the Kucan and Beck (2003) study, DiCecco and Gleason (2002) conducted a study to examine the effects of graphic organizers on the attainment of relational knowledge from expository text. The researches used a pretest-posttest control group design with middle school learning disabled students to determine if the use of graphic organizers would affect their ability to convey and cue relational knowledge. The independent variable was the graphic organizer instruction versus instruction without the use of graphic organizers. The dependent variables included the Word Identification and Word Attack subtests from the Woodcock Reading Mastery Test-Revised (WRMT-R; Woodcock, 1987), a twenty item multiple-choice pretest utilized to assess content knowledge, and a writing sample to assess the participants' general writing abilities and specific relational knowledge. The dependent variables for the posttest included a content knowledge multiple choice test, eight content knowledge fact quizzes, and two domain knowledge essays.

The study was conducted at two moderately sized middle schools in Oregon. One of the schools was located in a low socioeconomic area, while the other school was located in a middle socioeconomic area. The participants included twenty-four students

with learning disabilities from three pullout resource room programs for students with mild disabilities. The students were identified as having a learning disability under the 1986 Oregon administration rules and all of the participants had an Individualized Education Program (IEP) in reading. The participants were assigned randomly to two groups, resulting in six instructional groups; three assigned to the graphic organizer condition, and three assigned to the no graphic organizer condition. The graphic organizer group included twelve students: one eighth grader, three seventh graders, and eight sixth graders, with a mean age of 13.5 years. The participants in this group were all Caucasian with two girls and ten boys in the group. The no graphic organizer group included twelve students: two eighth graders, five seventh graders, and five sixth graders, with a mean age of 13.5 years. Two of the participants in this group were girls and ten were boys; one participant was African American, the remaining were Caucasian.

The researchers in this study administered four pretests to the participants. The Word Identification and Word Attack subtests of the WRMT-R were administered to determine word reading skills and to determine comparability between the two groups. A twenty item multiple choice test was administered to determine the participants' knowledge of the content to be covered in future instruction as well as to examine group comparability. A pretest writing sample was used to assess the participants' general writing abilities and specific relational knowledge prior to instruction, but also to determine group comparability. The two groups were not significantly different on scores from the pretest measures, which established group equivalence before the study began.

Participants received instruction for a period of four weeks (twenty school days). Instructional sessions were conducted during normal reading periods in the special education resource rooms during their forty-minute period. The graphic organizer and no graphic organizer groups were taught in separate, but comparable rooms. The six instructors involved in this study had extensive training in direct instruction. All but two of the teachers had several years of experience teaching special education, while the remaining two instructors had one year of experience. The instructors rotated between two groups at the same school for the same class period each time a new graphic organizer was being introduced to counterbalance the instructors due to teaching experience differences. The instructors rotated five times during the twenty days. All of the instructors had a two and a half hour training where they learned how to use teaching scripts. The materials used in this study was selected from Chapters 42 and 43 in *America! America!* (Buggey, Danzer, Mitsakos, & Risnger, 1977), a middle school social studies textbook. Each lesson taught was limited to facts, concepts, and relationships for a single theme. Corresponding relational knowledge statements, both implicit and explicit, were identified for use on the graphic organizers in the graphic organizer condition and in teacher wording for both conditions. Five graphic organizers were used in the graphic organizer condition. Each graphic organizer contained no more than sixteen cells to show relationships between concepts in the textbook. Teaching scripts were used for both instructional groups, but the control group had specific wording in their script for teaching the graphic organizer. Both groups were taught both relational knowledge and summary writing skills based off of the pretest results.

The forty-minute lessons were designed to provide intensive instruction. The intensive instruction in this study focused on direct teaching of vocabulary meanings and difficult-to-decode words, strategy instruction to write summaries, and scaffolding for reading text and answering comprehension questions. Both of the groups followed this lesson format, but the graphic organizer group had explicit instruction visually through the use of a graphic organizer when discussing relationships in the text. The graphic organizer group received direct instruction focused on the use of a graphic organizer before receiving their own graphic organizers to fill out. The no graphic organizer group only discussed the relationships verbally. This group followed the same lesson format as the graphic organizer group, however they did not receive any instruction on graphic organizers. Instead, they received instruction on using practices common to social studies classrooms. To check for instructional fidelity four observers were trained to monitor lessons.

Intervention effects were determined using three dependent measures. A twenty item content knowledge multiple choice test was used to assess knowledge of facts, concepts, and principles contained in the test. An analysis of this test demonstrated that participants in both groups had significantly higher posttest scores. The no graphic organizer group improved from a mean of 4.25 (22%) to a mean of 12.58 (63%), while the graphic organizer group improved from a mean of 6.08 (30%) to a mean of 13.42 (67%). Eight fact quizzes were administered to assess the participants' comprehension and retention of factual content knowledge. The quizzes were administered on the day after the relevant reading and consisted of five multiple choice questions. No interaction,

$F(7, 154) = .388$, $p = .909$, and no main effect for condition were determined, $F(1,22) = .039$, $p = .8461$, indicating that participants performed similarly on the tests.

The final assessments administered were two essay prompts designed to ascertain the degree to which students retained, recalled, and used domain knowledge. One prompt was administered after seven days of instruction, while the other was after twenty days of instruction. Each essay prompt consisted of a content-oriented written prompt which required an explanatory response. The prompts were administered in a standardized fashion using a script to ensure consistency between the six groups. All of the written measures were scored first on the number or words written to get for the students' general writing ability. There was no interaction $F(1, 22) = .153$, $p = .6996$, and no main effect for the condition, $F(3,66) = .655$, $p = .5828$. Relational knowledge statements in the essay were also assessed to determine whether students' essays contained an understanding of the relationships between concepts. The graphic organizer group had significantly more relational knowledge statements ($p = .0007$) than students in the no graphic organizer group on essays one and two combined. The no graphic organizer group demonstrated an average of 2.54 statements, while the graphic organizer group demonstrated an average of 4.33 statements. As a result students who received instruction on the use of graphic organizers recalled more relationships than students in the no graphic organizer group.

By the same token, Hebert, Graham, Rigby-Wills, and Ganson (2014) investigated the effects of note-taking and extended writing on expository text comprehension. The three purposes of this study were to determine whether note-taking or extended writing were effective for improving the reading comprehension of fourth

grade writers, to compare whether note-taking was more effective than extended writing for improving reading comprehension, and to determine whether the treatment comparisons in purposes one and two were moderated by students' writing ability. The researchers hypothesized that the combined writing treatments would be more effective than reading and studying for improving fourth grade expository text comprehension. They also hypothesized that the note-taking group would significantly outperform the extended writing group on recall of factual information, but also hypothesized that the extended writing group would significantly outperform the note-taking group when asked to apply the information to a new situation in an extended writing task. The independent variables were note-taking instruction versus extended writing instruction versus reading and studying without writing instruction. The dependent variables for the posttest were a topic knowledge measure, application essay measure, and a multiple choice inference measure.

Participants in this study included 192 students from thirteen fourth-grade classrooms across three schools in a school district in the south. There were eighty-eight boys and one hundred and four girls in this group. The students ranged in age from 9.51 to 11.56 years old. Twenty-six of the students received special education services. Fifty-four of the students received free or reduced lunch. Participants in this study included 81.9% Caucasian, 9.3% African American, 1.6% Asian, 6.2% Hispanic, and .5% other backgrounds. The participants were randomly assigned to one of the three conditions in this study. Sixty-one were assigned to the note-taking group, sixty-seven to the extended writing group, and sixty-four to the reading and studying without writing group. The WIAT-III was used to analyze whether there were differences between the treatment

groups. No statistically significant difference was found between the three groups, $F(2, 189) = 0.45$, $p = .638$.

The study was conducted over four consecutive days with all of the study activities completed on the same days at all three schools. Students completed the pretest on Day 1 of the study, and were randomly assigned to one of the three treatment conditions. On Day 2, the "instructors" (the first author and two graduate students) modeled and demonstrated the experimental tasks for the students in each condition. On Day 3, the students read a text and completed the treatment task with minimal instruction from the instructor. Students were provided posttest measures on Day 4. Lessons were forty-five minutes on Days 1-3 and sixty minutes on Day 4. The reading passages used were informational texts previously used by the National Assessment of Educational Progress (NAEP) to assess reading comprehension skills of fourth grade students. All of treatment groups used the same passages. Students in the read and study group received instructions to read a passage and study the important ideas. The instructors used an interactive think-aloud to model an example of a way to study text after reading. The instructors emphasized identifying important information, using single words and short phrases to represent big ideas, and repeating information to aid in memory. Students were permitted to study the text in any manner they chose, as long as it did not involve writing. Students in the note-taking group were instructed to take notes on important information. The instructors modeled paraphrasing main ideas and details in note form on Day 2 and then students were asked to read a new passage and take notes on their own on Day 3. Students assigned to the extended writing group wrote compare and contrast essays to connect information between the text and their prior knowledge. On Day 2, the

instructors in this treatment group provided students with an example of a good compare and contrast essay. The example essay included four paragraphs comparing and contrasting how penguins take care of their young with how people take care of their young. The example included an introduction, a paragraph about similarities, a paragraph about differences, and a conclusion paragraph. On Day 3, the students were instructed to read a new passage and write a compare and contrast essay of their own. On Day 4 of the treatment, all of the groups completed three outcome measures. The measures included a topic knowledge assessment aligned with note-taking, an application essay aligned with the extended writing, and a multiple choice inference measure that was treatment-independent. For the topic knowledge assessment, students were asked to write free-association responses to four key topics from the passage read. The student responses were parsed into propositions, and each proposition was scored as either being a text reproduction, incorrect information, or irrelevant information. For the application essay, students were asked to process the ideas presented in the text, analyze how these ideas relate to another situation, and elaborate on the ideas in an extended response. Students were provided twenty minutes to construct their responses. Two raters (the first author and a graduate student) scored the responses. The essays were scored on the application of concepts as well as the elaboration of ideas. For the multiple choice measure, students completed a fifteen question, author created multiple choice inference measure that required students to make inferences based on information provided in the reading passage. Each question was scored as either correct or incorrect, and the number of correct answers was summed to create a total score for the measure.

Student writing ability was a statistically significant predictor of scores on the multiple choice measure ($t = 3.36$, $p < .001$). Students in the note-taking (M=8.74) and extended writing (M= 8.37) groups outperformed the read and study group (M= 8.00). Student writing ability was also a statistically significant predictor of the essay scores ($t = 3.79$, $p = .001$). The note-taking group (M= 3.86) scored higher than the read and study group (M=3.57), while the extended writing group (M= 3.26) scored the lowest on this measure. Student writing ability was a statistically significant predictor of the essay scores (t= 5.28, $p < .001$), however there were no statistically significant main effects for treatment on this outcome. The read and study group (M= 5.88) scored higher than the note-taking (M= 5.83) and extended writing (M=5.06) groups on total correct on the topic knowledge assessment. Contrary to the predictions, the model did not explain a statistically significant amount of variance for the topic knowledge-proportion correct, $F(6, 185) = 1.30$, $p = .260$. According to the results, students who wrote about the text scored and average of 3.8% higher on the outcome than students who read and studied without writing. Based on the limited findings of this study, it was determined that "minimal instruction" was not enough to produce significant results for writing about text with fourth grade students.

Stagliano and Boon (2009) also wanted to examine a procedure that improved and enhanced expository reading comprehension. They examined the effects of using a story-mapping procedure to improve and enhance the expository reading comprehension skills of fourth grade students with learning disabilities. The research question was: What are the effects of a story-mapping procedure on the ability of elementary students with learning disabilities to answer comprehension questions about expository passages? The

independent variable was the story-mapping instruction. The dependent variables included the Qualitative Reading Inventory-4 (QRI-IV; Leslie & Caldwell, 2006), the *Read Naturally* (Ihnot & Ihnot, 2007) placement test, and the STAR reading test (Renaissance Learning, 2006). The independent variables for the posttest included *Read Naturally* passage comprehension questions and story-maps to assess knowledge of story elements.

Three fourth grade elementary students with learning disabilities participated in this study. All of the participants attended a public elementary school in rural northern Georgia. All participants were male; two Caucasian and one African American. Each student met the state of Georgia's eligibility criteria for a specific learning disability and received special education services in a resource classroom for students with mild disabilities. The participants had no previous exposure or instruction using the story-mapping procedure, were at least two grade levels below current grade placement on the QRI-IV, utilized at least one class period per day receiving reading instruction in the special education resource room, and attended at least 95% of school days during the previous grading period. All of the students had a primary deficit in the area of reading and struggled primarily in the area of reading comprehension.

The study was conducted in the special education resource room in a public elementary school. The study was conducted during two months and was twenty-four sessions in duration. The independent variable was administered in a one-to-one setting in the front of the classroom, with the other two students working at a table in the back of the room or outside at a picnic table. The intervention sessions were scheduled during the first fifteen to thirty minutes of the students' daily reading instruction in the resource

room. The researchers used the QRI-IV, *Read Naturally* placement test, and STAR reading assessment, to determine which level passage each student should begin with. Reading passages were derived from the *Read Natural* series. All of the passages were expository and were individually selected based on each student's current reading level at the time of the study. The first session in the intervention was used for baseline assessment. Once the teacher had attained a stable baseline for the students, the students received one-to-one instruction on the story elements and began using the story map for three consecutive days. A brief overview of the five elements on the story map occurred, and the researcher explained the purpose of using the story map as a helpful strategy to organize information while reading. Each element was modeled for the participant and discussion questions followed. After modeling several passages, the researcher engaged the student in guided practice. During this time, the student read a passage and identified as many story elements on the story map as he could. Guided practice continued until the participant scored at least 80% on the comprehension questions and story elements for two consecutive sessions. Once a participant met criteria, the instructor informed the student that he would continue using the story map individually while the next student would be introduced to the intervention. The final phase of the study was conducted two weeks after the last participant reached 80% criteria on the reading comprehension questions. During this phase, participants independently read the selected passage, completed the story map, and answered the comprehension questions. Three maintenance probes were collected, and previous grading procedures continued to be utilized.

Participants performed at low levels on the comprehension questions during the baseline testing, but after receiving one-to-one training on story elements, their percentage of comprehension questions answered correctly increased. The participants' scores not only increased from the baseline to the intervention, but their improvements were maintained after the two-week break. For example, one of the students had a mean of 6.67% on the baseline tests, then had a mean of 92% during the intervention phase, and then maintained his growth in the maintenance with a mean of 86.67%. Another student had a mean of 26.75% on the comprehension questions on the baseline test, then scored a mean of 85% on the questions in the intervention phase, and maintained his growth in the maintenance phase with a mean of 86.67%. The final student performed at the same level. He scored a mean of 11.43% on this baseline tests, a mean of 86.67% during the intervention phase, and maintained his growth in the maintenance phase with a mean of 86.67%. During the intervention and maintenance phases, data was collected through the use of story mapping to assess the participants' ability to correctly identify story elements. All of the scores increased from the intervention to the maintenance phase. The first student increased from a mean of 92% to a mean of 93.33%, the second student increased from a mean of 90% to a mean of 93.33%, and the last student increased from a mean of 80% to a mean of 86.67%. All of the participants were able to correctly identify whom or what the story was about and the time or place in which the story was set with 100% accuracy during the intervention and maintenance phases. The story-mapping procedure was effective in increasing each participant's percentage of correctly answered comprehension questions of expository text. The effects of this

intervention can be seen across all three participants and maintained at stable levels after the conclusion of the intervention.

Students need to be exposed to a variety of reading strategies to aid in their comprehension of expository text. Gilliam, Fargo, and Robertson (2009) determined that the ability to paraphrase passage closely related to the ability to comprehend expository text. Kraemer, McCabe, and Sinatra (2012) determined that students would be better prepared for reading and understanding content material if such material could be read aloud to them on a regular basis in the primary grades. The results of the DiCecco and Gleason (2002) study supported the conclusion that the use of graphic organizers aids in teaching relational knowledge to students with learning disabilities. Hebert, Graham, Rigby-Wills, and Ganson (2014) determined that writing about text improves reading comprehension for fourth grade students. The Stagliano and Boon (2009) study concluded that the use of the story-mapping procedures is an effective reading comprehension technique. The Kucan and Beck (2003) findings suggested that inviting students to communicate their understanding of text ideas as they construct it supported their reading comprehension.

Effects of Text Structure Instruction

Young children have difficulty with expository text due in part to limited cognitive development and experience. Teachers have used text structure instruction to help younger children with their expository text comprehension difficulties. Text structure awareness was found to be the foundation for expository text comprehension. Readers who understand a text's structure typically find greater success in identifying key information and relationships between ideas in a text (Hall, Sabey, & McClellan, 2005).

The studies (Hall, Sabey, & McClellan, 2005; Meyer, Middlemiss, Theodorou, Brezinski, McDougall, & Bartlett, 2002; Meyer et al., 2010) described below focused on the importance of expository text structure instruction.

Hall, Sabey, and McClellan (2005) conducted a six-week study to examine the effectiveness of an instructional program designed to teach second graders how to comprehend expository text. Instruction occured during small group, guided reading instruction. Because text structure awareness was a critical element for facilitating text comprehension and recall of expository texts, it was the focus of this study. Previous studies have been conducted in the context of whole class instruction of expository texts; therefore the researchers were particularly interested in determining the benefits of small group expository text instruction during guided reading. The independent variables were the instructional programs: Text Structure, Content, or No Instruction. The dependent variables included teacher created assessments that incorporated four measures: summary of a compare/contrast text, identification of clue words in a paragraph, a matrix, and vocabulary. The post assessment involved five additional measures as well: three summaries of compare/contrast text, summary of an unstructured text, recall of clue words, overall use of clue words, and conceptual understanding of compare/contrast.

This study was conducted in one suburban Title 1 elementary school in the Mountain West where 46% of the students received free or reduced-rate lunch and 12% of the student body were English language learners. Seventy-two second graders from six classrooms participated in the study; 46 males and 26 females. The school population was comprised of 87% Caucasian, 11% Hispanic, 1% Pacific Islander and 1% Asian/Other students. Five teachers with one to five years of classroom teaching

experience volunteered to participate in the study. Three to four second grade students were placed in homogeneous guided reading groups and randomly assigned to one of three conditions: Text Structure Program, Content Program or the No Instruction Program. The Text Structure group contained eight guided-reading groups with a total of 31 students; the Content group contained four guided reading groups with a total of 17 students; and the No Instruction group contained eight guided-reading groups with a total of 24 students. The teachers met with each group two or three times a week for 20 to 25 minutes a session. Researchers controlled the guided reading groups by only using groups that had more than one child. Groups that contained only one child were dropped from the study, this ensured that small group instruction was occurring instead of one-on-one instruction. Other extraneous variables that the researchers controlled include the grade level, school, and random assignment of the participants. In addition, a pre-interview was administered to all seventy-two students to assess their performance before the study began; this guaranteed that students were not already proficient on the tasks they would be expected to complete in their guided reading group.

The Text Structure and Content groups used information books from a guided-reading collection, well structured compare/contrast paragraphs written by the authors of this study, graphic organizers, and paragraph frames. The No Instruction group incorporated their regular instruction with no additional materials provided. Throughout the Text Structure program the teacher introduced the text to the students including the content of the book, major vocabulary words, and highlighted comparison clue words (alike, both, similar, but, different, however, and contrast). Students then "mumble read" the text to allow the teacher to "listen in," discussed and revisited the text by reviewing

the vocabulary words and major concepts. The students completed graphic organizers for comparisons. Next, the students reiterated the comparisons, and to finish students wrote summaries. During the Content program the teacher introduced the text to the students by discussing the vocabulary words and concepts in order to activate the student's prior knowledge about the topic. Similar to the Text Structure program, students "mumble read" and the teacher "listened in." When discussing and revisiting the text, the teacher reviewed the vocabulary words and major concepts found in the text, students completed graphic organizers highlighting main topics and subtopics, and at the conclusion of the lesson the students wrote summaries with the aid of their graphic organizers. The main focus of the Text Structure program was to emphasize the structure of the text as a way to assist in students' comprehension, whereas the main focus of the Content program was factual information and associated vocabulary. In the No Instruction group, teachers were not provided a specific program to follow. Instead, they used content and strategies of their choosing. To ensure fidelity of the programs, teacher observation (excluding the No Instruction groups) occurred once per week for 45 to 60 minutes and recorded notes concentrated on how closely the teacher followed the lesson outline, time on the lesson, and student engagement. Another way the researchers ensured consistency was by providing all three groups with the same pre and post assessments. The pre assessment included four different measures: summary of a compare/contrast text, identification of clue words in paragraph, matrix (graphic organizer), and vocabulary. The post-assessment included the same four measures as the pre-assessment as well as five additional measures; three summaries of compare/contrast text, summary of an

unstructured text, recall of clue words, matrix, overall use of clue words, vocabulary, and conceptual understanding of compare/contrast.

The overall outcome of the nine measures of the post test demonstrated significantly higher scores for the Text Structure group than the Content group with the exception of the three strategy measures of recall of clue words, matrix, use of clue words, and the conceptual understanding of compare/contrast. Within these tasks, the Text Structure group scored significantly higher than both the Content group and the No Instruction group. In addition, there was no substantial difference between the Content and No Instruction groups in any of the measures. In the three summaries of compare/contrast texts, the far transfer passage results showed no overall effect from the treatment, the near and no transfer passage results showed that the Text Structure group scored significantly higher than the Content group or the No Instruction group. The summary of the unstructured paragraph as well as the vocabulary measure showed no overall effect from the treatment in all of the groups.

The large differences in the scores implied that the implemented text structure program was most effective and the strategies and concepts utilized in this study revealed the necessity to organize expository information to make sense of expository texts. The Text Structure group scored higher than the Content and No Instruction groups in all areas. The most significant difference in scores occurred on the recall of clue words assessment where the Text Structure group (M= 5.32) scored higher than both the Content group (M=0.45) and No Instruction group (M=0.41). The Text Structure group (M=1.73) also scored higher than the Content group (M=0.74) and the No Instruction group (M= 1.15) in the area of written summaries. In the area of concepts, the Text

Structure group scored higher than the Content group and No Instruction group on both assessments. Recognizing that the instruction was only six weeks, the results also suggested the strength of the program and the possibilities it carries if instruction extended throughout the school year.

Similarly, Meyer, Middlemiss, Theodorou, Brezinski, McDougall, and Bartlett (2002) conducted a study that examined the effects of structure strategy instruction delivered to fifth-grade children using Internet with and without the aid of older adult tutors. The researchers predicted that the group receiving the structure strategy instruction using the Internet with tutors would learn the strategy at a higher level than a group receiving the same instruction without tutors. The independent variable was the structure strategy: with tutors versus without tutors versus the no structure strategy instruction. The dependent variable included two reading and recall tasks, one writing task, the computer attitude and use questionnaire, and the Sherer Self-Efficacy Scale (Sherer et al., 1982), and an added questionnaire that was intended to evaluate changes in students reading that had occurred during the project. The dependent variable for the delayed posttest included reading passages that were read, recalled, and queried.

The children who participated in this study were in the fifth grade in a rural middle school in northwestern Pennsylvania. Students were recruited through an invitation letter sent home to parents in the spring when the children were in fourth grade. Seventy-three students participated in this study. Three of the students were rated as being extremely low in reading based off of their scores on the Reading subtest of the Iowa Test of Basic Skills (ITBS; Hoover, Hieronymus, Frisbie, & Dunbar, 1996). The students participated in the study with one assigned to each training session, but their data

was not included in the analyses because the child assigned to the tutoring group had poor attendance and barely interacted in the materials on the website. Overall, the children in the sample demonstrated higher than average reading skills based off of the Iowa Test of Basic Skills. Twelve adults ranging in age from 62 to 80 years were trained on the structure strategy, basic web search and email skills, and basic tutoring skills. One trained adult decided not to tutor the children because of time commitments.

A variety of assessments were used as pretest measures. To assess vocabulary knowledge, the researchers used the Quick Word Test (Borgatta & Corsini, 1964). Reading comprehension was assessed with the first half of the Davis Reading Test, Form 1B (F.B. Davis, 1944; F.B. Davis & Davis, 1957). Students also completed a questionnaire regarding biographical information, health, interests, and reading and memory habits. To measure self-efficacy, the researchers administered a twenty-three item, four point Likert scale questionnaire (Sherer et al., 1982). Students also read problem-solution articles and answered six main idea questions after reading. The writing assignment involved writing a comparison article for a science textbook or magazine comparing and contrasting two different types of frogs.

After pretesting was completed, students were randomly assigned to one of three groups: a tutoring group, in which students worked with a Web-based instruction in the structure strategy with a tutor; a group in which students worked independently on the same Web-based instruction without a tutor; a control group, in which students did not receive instruction in the structure strategy. While the training groups were working on the Web pages, the control group participated in the AR program. During AR time, all students read storybooks and then completed comprehension tests about the books on the

computer. Participants in both training groups joined the control group in the AR program on the days during the week when they did not work on the Web-site training. Strategy groups met in the computer lab of their school three times a week for twenty minutes each week of the ten-week program. The group with tutors met for three sessions before the other structure strategy group to learn the e-mail program and become acquainted with their tutors through this program. The web pages consisted of twenty-five twenty-minute lessons that were utilized to teach the structure strategy. Web pages did not differ on content-specific information, only on their reference to tutors. The most difficult plans occurred in initial five lessons and focused on the comparison structure. The next eight lessons focused on the problem-solution plan, with a review of the comparison plan. Lessons ten through twelve emphasized how to strategically use the comparison and problem-solution plans to aid learning and remembering information from text. The following eight lessons focused on cause-effect while reviewing comparison and problem-solution. The sequence plan and all previous plans were reviewed in lessons twenty-two and twenty-three. Then, lessons twenty-four introduced description. Lessons twenty-five reviewed all of the plans. Only 10% of the students reached lesson twenty-five before the end of training in mid-December. Tutors in the first group provided feedback on work, encouragement, directions for the day's activities, and additional instruction about the strategy if they believed their students needed extra assistance. The tutors were also encouraged to have students repeat lessons if they did not understand them. The immediate posttest was very similar to the pretest, involving some reading and writing tasks and questionnaires. At the end of the posttest, a questionnaire was added that was intended to evaluate any changes in students reading

and occurred during the project. A delayed posttest was administered two and a half months after instruction. This test included shorter passages that were read, recalled, and queried.

Overall, the findings for the children supported the hypothesis that structure strategy training with the aid of tutors would increase total recall. There was a statistically significant effect of training condition for total recall on the delayed posttest, $F(2, 57) = 3.70, p = .03, MSE = 314.30$, but not on the immediate posttest, $F(2, 57) = 1.89, p = .16, MSE = 791.29$. Because of the difficulty the children had with the immediate posttest passages that were much longer than the passages they utilized during training, the researchers used shorter passages more similar to those used during training on the delayed posttest. Recall was higher for these more similar texts. The researchers discovered that self-efficacy increased because of tutoring. An ANOVA on gain scores for self-efficacy demonstrated a significant effect for training condition, $F(2, 57) = 5.55, p < .01, MSE = 0.09$. The findings supported the claim that the intervention increased reading comprehension rather than the writing skills needed to perform well on the writing tasks. There were no differences in gain in writing performance from pretest to posttest, $F(2, 57) = 0.04, p = .96. MSE = 2.70$.

Meyer et al. (2010) conducted another quasi-experimental study that investigated the effects of different versions of Web-based instruction focused on text structure on fifth- and seventh-grade students' reading comprehension. The design features of the tutoring systems were type of feedback (elaborated or simple) and choice of text for practice lessons (choice or no choice). The researchers wanted to determine whether the design variations of feedback and/or choice affected the students' reading comprehension

in the areas of recall, strategy use competence, and knowledge of comparison-signaling words. Also, if the varied design features predicted jumps from no understanding to adequate understanding of the problem and solution structure. Also, did the varied designs affect performance on the standardized reading comprehension test. They also wanted to determine if pretest to posttest gains present for remembering information, understanding signaling, and using the structure strategy after instruction with the *Intelligent Tutoring of the Structure Strategy* (ITSS; Meyer & Wijekumar, 2007) after instruction and were they able to maintain growth over a four month summer break. The independent variable was the instruction: web-based tutoring with or without feedback or choice. The dependent variables were a researcher created pretest/posttest designed to measure reading comprehension as well as a posttest to assess maintenance four months after instruction with the Grey Silent Reading Test (GSRT; Wiederholt & Bialock, 2000).

The participants in this study were fifth and seventh grade students from a school district in western Pennsylvania. In this district, 80.6% of the students were Caucasian, 11.4% African American, 1.6% Asian American, and 6.4% Native American, Hispanic, or other backgrounds; 9.8% of the students received state aid in the form of free or reduced-rate lunch, and 8.5% of the students received part-time special education services. The seventh grade students attended the middle school in the district and the fifth grade students attended one of two elementary schools. The participants included 69% fifth-grade students and 38% seventh-grade students. Fifty-six students participated 25 boys and 31 girls 21 as below-grade-level readers. The ITSS program was self-paced and students worked on the program independently, but teachers and aides were trained on the program from two one-hour sessions.

To begin this study, researchers administered the Grey Silent Reading Test to determine the student's silent reading ability. The testing was conducted in a large auditorium and required two and a half hours to administer. After testing, students were assigned to one of twelve conditions two feedback conditions (elaborated or simple) x two motivation conditions (choice or no choice) x three experimenter-designed test forms (cats/turtles, dogs/monkeys, or rats/penguins). Prior to using the ITSS program, the students were administered the researcher-designed pretest to assess their reading comprehension. Once testing was complete, students received an introduction to ITSS, usernames, passwords, and individual headphones. The students then began the ITSS program independently. This program was designed to allow students to interact with an animated tutor to learn and practice the strategy and receive immediate feedback. Students utilized ninety minutes per week during two to three sessions for six months to complete their ITSS lessons (focusing on the compare/contrast, problem/solution structures). Only nineteen percent of the students in this study completed all of the sixty-five lessons. This could be due to effort, absence, or computer access problems over the first few months. A few weeks before the end of the school year, students were administered a posttest. This posttest was administered under the same testing conditions as the pretests; students completed the GSRT and the researcher-designed test. After summer break, the testing occurred in the middle school auditorium where all of the students completed the experimenter-designed delayed posttests.

Results of the posttests revealed that students remembered more after ITSS instruction than before ITSS instruction, however, contrary to their predictions, variation of design features did not affect pretest to posttest gains (feedback by time interaction:

Wilk's $\Lambda = 0.95$, $F(4, 100) = 1.24$, $p = .229$; choice by time interaction: Wilk's $\Lambda = 0.96$, $F(4, 100) = 1.15$, $p = .336$). Researchers also found no statistically significant declines over the summer break (Wilk's $\Lambda = 0.99$, $F(1, 109) = 1.54$, $p = .22$; comparison: Wilk's $\Lambda = 0.996$, $F(1, 109) = 0.42$, $p = .52$). The posttest data revealed that students also knew more about using comparative signaling words after instruction with ITSS than before ITSS ($d = 0.58$). Prior to ITSS instruction, only 41% of the students used the structure strategy on at least one of the two tested structures (compare/contrast and problem/solution) compared to 80% of the students who used the strategy after the ITSS instruction. According to pretest results, thirty-two of the students demonstrated no understanding of the problem/solution text structure. At posttest, 44% of these students demonstrated competency using the structure strategy with the problem/solution structure. Results demonstrated that ITSS with elaborated feedback substantially increased reading comprehension.

The previous studies demonstrated that text structure instruction has been demonstrated to be beneficial to students (2010). The Hall, Sabey, and McClellan (2005) study proved that text structure instruction was beneficial at the early elementary level, while Meyer et al. (2010) demonstrated that text structure instruction was beneficial at the middle school level. The Meyer et al. (2002) study supported the hypothesis that structure strategy training with the aid of tutors increased total recall of text. Although text structure awareness was only one strategy that supported expository text comprehension, a implication was that exposure to expository text structure was a reliable way to address early elementary and middle school student's difficulty with comprehending expository text.

Effects of Compare/Contrast and Cause/Effect Text Structure Instruction

Due to limited exposure, availability, and teacher familiarity with expository text instruction, elementary students have demonstrated difficulty with expository text comprehension. The best means of addressing the difficulties is through the use of quality instructional programs that teach vocabulary, text structure, and text signals (Hall, Sabey, & McClellan, 2005). Expository text structures include description, sequence/procedure, enumeration, cause/effect, problem/solution, and compare/contrast structures (Hall, Sabey, & McClellan, 2005). The studies (Williams et al., 2005; Williams et al., 2013; Carnahan & Williamson, 2013) discussed below focused on instruction in the areas of cause/effect and compare/contrast text structures and how explicit instruction in these text structures was beneficial to elementary aged students.

Williams et al. (2005) studied the effectiveness of an instructional program designed to teach second graders how to comprehend compare-contrast expository text. The researchers examined the effects of text structure instruction on the comprehension of compare-contrast expository text. The researchers also explored if the text structure instruction detracted from the amount of content knowledge acquired if the text structure instruction had not been present.

The independent variable in this quasi-experimental study was the instruction: text structure instruction versus content instruction versus no instruction. The dependent variables for the pretest sessions included the Word Identification and Passage Comprehension subtests of the Woodcock Reading Mastery Test (WRMT-R/NU; Woodcock, 1998), the Listening Comprehension subtest of the Wechsler Individual Achievement Test (WIAT; Wechsler, 1992), three measures to assess strategies taught in

the text structure program: recall of clue words, written generation of sentences based on the graphic organizer, and recall of compare-contrast questions, and a measure that assessed content knowledge of vocabulary concepts. The dependent variables for the posttest sessions included outcome measures (recall of clue words, locating of clue words, sentence generation, recall of compare-contrast questions, and information web), structure measures (summarizing compare-contrast animal paragraphs orally and in writing using comparative statements), and concept measures (detail and vocabulary questions).

The sample consisted of 128 second-grade students from three elementary schools in a large metropolitan area. The schools were similar in demographics. Enrollment within the three schools included 57% Hispanic, 41% African American, 1% Caucasian, and 1% Asian/Other. Of the 128 students, 88% received state aid in the form of free or reduced-rate lunch, and 6% of the students were enrolled either full or part-time in special education services. Ten second-grade teachers volunteered to participate in the study and their rooms were assigned randomly to a condition (text structure, content only, or no instruction). The condition was that the instruction classrooms (text structure and content) had to be equal to or larger than the no instruction classrooms. Nine of the teachers held master's degrees and their teaching experience ranged from two to seven years. All of the teachers were provided with the necessary materials to conduct the lessons and participated in instructional trainings to become familiar with the programs. The researchers observed the instructional classrooms twice using a lesson plan checklist to ensure fidelity to the treatment.

Both instructional programs used a comprehensive animal encyclopedia, trade books, and carefully constructed compare/contrast paragraphs. The nine compare-contrast paragraphs were written for the program and ranged from nineteen to eighty-two words each. The text structure program was taught in fifteen lessons, twice a week. The content goal of the instructional program was to teach students how to classify animals according to four features and to determine which of the five classes of vertebrates the animal belonged to. The first lesson focused on two familiar animals to familiarize the students with the procedure. The remaining lessons focused on two of the five target animals chosen for this study (lion, shark, crocodile, eagle, and frog). The lesson plan format was as follows: introduction of eight clue words, trade book reading and discussion, vocabulary introduction, reading and analysis of the target paragraph, organizing the paragraph information onto a graphic organizer, compare-contrast questions, and using a t-chart to write a summary.

The students in the content program received the same materials as the students in the text structure group, but the emphasis of the instruction was on the content. The content program was taught in fifteen 45-minute lessons. The teacher began each lesson by providing the students a brief introduction to the lesson including an introduction to the two animals presented in the lesson. The teacher then read from the encyclopedia or trade books and asked or answered questions along the way. Next, the students organized the animal information onto information webs. Once they were completed the webs, the students were presented with a list of vocabulary concepts. Students then read a compare-contrast paragraph and were instructed to share information about the animals as a group. After they shared information, the students used information from the web,

paragraph, and class discussion to complete a paragraph frame. Finally, the students reviewed the vocabulary concepts and facts they learned about each animal.

The researchers used pre and posttests to assess the effects of the instructional treatment. The text structure group scored higher than the content and no instruction groups on all of the strategy measures, except the information web test in which the no instruction group (*M*=2.33*)* scored slightly higher than the text structure group (*M*=2.27). The text structure group scored higher than the content and no instruction groups in all of the structure measures, except the oral structure transfer test in which the no instruction (*M*=1.56) was slightly higher than the text structure group (*M*=1.41). The text structure group scored higher than the content and no instruction groups in the content measures, except the detail questions where the content group (*M*=2.70) was slightly higher than the text structure group (*M*=2.05).

The data presented indicated that text structure instruction did have an effect on expository text comprehension. The data also indicated that students learned content through the use of text structure instruction. The researchers determined that students not only learned content through the use of text structure instruction, they also learned how to process particular types of expository text.

Ultimately, the researchers' findings indicated that cause/effect and compare/contrast text structure could be taught successfully to elementary-aged students. The students at this level have not all mastered word recognition and fluency, but they did benefit from explicit instruction in nonfiction text structure to provide a strong foundation for future learning.

Similar to their previous study, Williams et al. (2013) conducted a study to evaluate the effectiveness of teaching cause/effect text structure with social studies content at the second grade level. The purpose of the study was to modify their previous text structure study to provide a more developmentally appropriate context for determining how effective text structure instruction is with second grade struggling readers. The researchers also wanted to determine the sustainability of the text structure intervention after the intervention had been terminated.

The independent variables in this quasi-experimental study were the text structure program (TS) versus the content program (C) versus no-instruction (N). The dependent variables for the pretest session included the Word Identification and Passage Comprehension subtests of the Woodcock Reading Mastery Test (WRMT-R/NU; Woodcock, 1987). The pretest session also consisted of a test to assess several tasks to be taught in the instructional program including: the generation of cause/effect questions, an assessment of content knowledge via vocabulary concepts, the ability to combine two orally presented sentences into one cause/effect sentences, and the ability to answer questions based off of reading a short paragraph. The dependent variables for the posttest session also included the Word Identification and Passage Comprehension subtests of the Woodcock Reading Mastery test as well as an extensive array of measures including: strategy (four measures that evaluated strategies taught to the text structure students), content (three measures that assessed social studies content), sentence combination (three sentence combination measures), and comprehension question (four measures that tested explicit teaching, oral transfer, written transfer, and authentic transfer) measures. The

delayed posttest consisted of a shortened version of the original posttest and consisted of strategy, content, sentence combination, and comprehension question measures.

The participants consisted of 197 second grade students from three elementary schools in New York City. The three schools were similar in that they were Title 1 schools. The enrollment of the three schools consisted of 76.4% Hispanic, 22% African American, 1.2% Asian or other, and 0.4% Caucasian students. Fifteen teachers volunteered to participate in the study, but only ten teachers participated due to scheduling conflicts. The experimental classrooms were randomly assigned and included six text structure classrooms, five content classrooms, and three no instruction classrooms. The researchers determined that there should be twice as many instructed conditions as in the no-instruction condition. The text structure classrooms included 86 students with a mean of 14.3 students per classroom, the content classrooms included 63 students with a mean of 12.6 students per classroom, and the no instruction classrooms included 48 students with a mean of 16 students per classroom. All of the teachers held masters degrees and were provided with the necessary materials to conduct the lessons.

The intervention was supplemental to the school curriculum and followed the New York State standards. Materials included a trade book and a biography for each of the three groups, as well as comprehension strategy posters, pocket charts to hold pictures and sentence strips, and content posters. The intervention groups used nine cause/effect paragraphs and sentences written for the intervention. All of the teachers were provided an introduction to the study and were trained individually to be familiar with the programs that they would be teaching. The researchers ensured fidelity to the programs

by conducting 21 classroom observations throughout the study to make sure that all of the lesson parts in the instructional programs were being taught.

The text structure program included twenty-two lessons in all with two lessons taught per week. There were two introductory lessons, six lessons for Unit One (Cherokee), seven lessons for Unit Two (Colonists), and seven lessons for Unit Three (Pioneers). The first lesson in each unit consisted of a discussion of cause and effect, cause/effect questions, vocabulary instruction, cause/effect clue words, target paragraph read-aloud and analysis, the use of a cause/effect graphic organizer, and a lesson review. The second lesson in each unit consisted of cause/effect activities using familiar content, vocabulary review, trade book read-aloud and discussion, community charting, comprehension questions, and a lesson review.

The teachers in the content program taught the same social studies content as the text structure program, but it did not focus on the cause/effect text structure. The first lesson of each unit consisted of a KWL chart, vocabulary instruction, trade book read-aloud and discussion, community charting, the use of a content graphic organizer, and lesson review. The second lesson for each unit included a KWL chart review, vocabulary review, read-aloud of the target paragraph, comprehension questions, community notebook, and a lesson review. The non-instruction group did not receive instruction on the topics.

The Woodcock test results were not used in the analysis because the scores indicated no significant differences due to the instructional conditions. The strategy, content, sentence combination, and comprehension question measures indicated that the text structure group performed significantly higher than the content group and the no-

instruction group. The mean score of the text structure group (0.52) was higher than both the content group (0.03) and the no-instruction group (0.05) on the strategy measures. The mean score of the text structure group (0.47) was higher than both the content group (0.46) and the no-instruction group (0.11) on the content measures. The mean score was also higher for the text structure group (0.66) than both the content group (0.15) and the no-instruction group (0.16) on the sentence combination measure. Finally, the mean of the text structure group (0.47) was higher than the content group (0.30) and the no-instruction group (0.28) on the comprehension questions. The delayed posttest after summer break demonstrated that text structure instruction did have a long-term effect on student learning of the content. The mean scores for the text structure group were higher than the mean scores for the content and no-instruction groups in all areas. This indicated that the students in the text structure group retained the information longer than the other two groups. The researchers determined that text structure instruction does have an effect on student learning of social studies content.

In a similar manner, Carnahan and Williamson (2013) conducted a study that evaluated the use of a compare-contrast strategy on the ability of students with the autism spectrum disorder to comprehend science text. This study sought to answer the following research questions: Does an intervention package designed to teach the compare-contrast text structure to middle school students with autism increase their reading comprehension of science text? To what extent is this intervention implemented with fidelity by a classroom teacher and considered to be socially valid? How does the content contained in the text compare with student representations? The independent variable was the compare-contrast text structure intervention package. The dependent variable was the

Qualitative Reading Inventory-5 to determine student instructional levels (QRI-5; Leslie & Caldwell, 2010), expository comprehension questions, and a Venn diagram content analysis.

This study was conducted in the fall and winter quarters during the reading comprehension block of the participants' school day. Three thirteen-year-old middle school students with high-functioning autism participated in this study. All of the participants had a diagnosis of autism from a physician or licensed psychologist. They attended a small private school in a Midwestern state and were in the same class with the same teacher. Before the study, the participants' decoding and reading comprehension skills were measured using the QRI-5. The teacher in this study had been teaching students with disabilities for twenty-three years. She had a Master's degree in Education and was a certified reading specialist.

A single-subject reversal design was used to assess the effectiveness of the compare-contrast intervention package on the participants' ability to comprehend science text. To acquire a baseline, the teacher distributed reading passages to the participants. The participants were instructed to read the passages paragraph by paragraph aloud, stopping at the end of every paragraph to summarize the information. At the end of the instructional lesson, each participant answered ten comprehension questions related to the passage. The teacher or researchers read the questions aloud to individual students in different areas of the classroom and students were able to answer verbally or in writing. In the intervention phase of the study, students used a compare-contrast package to support their comprehension of science passages. Each student received a copy of the passage, the compare and contrast signal words handout, and the Venn diagram. The

researchers developed three-paragraph expository passages for all phases of this study. All of these passages were based off of the science topics being taught in a compare-contrast text structure format. The researchers developed ten comprehension questions for each of the passages. The teacher began the lesson by reviewing the compare and contrast key words from the handout. The teacher also reviewed the different parts of the Venn diagram. After reviewing the Venn diagram, the students alternated reading the passage, stopping to identify the key words in the paragraphs. Students were directed to stop after every paragraph to summarize the information using the compare-contrast key words. After completing the read-aloud process, the teacher asked three guiding questions that supported students in summarizing the information: What are the two ideas? How are they the same? How are they different? Students then utilized the Venn diagram and verbally identified the concepts to write at the top. The students were then instructed to complete the remainder of the diagram on their own. A baseline was repeated after week eight and students entered an additional intervention phase identical to the first. A maintenance phase occurred six weeks after the completion of the second intervention phase. This phase replicated the first two intervention phases to determine if students using the Venn diagram maintained high levels of comprehension of science passages with the compare-contrast text structure.

Comprehension questions served as the primary student measures. Students had the opportunity to "look back" in the passage to correct incorrect responses after answering all of the comprehension questions. The teacher, or researchers, then wrote the number of correct responses at the top of the question page. In addition to comprehension questions, Venn diagrams from the intervention phase of the study were

analyzed for accuracy of content and the number of propositions recorded by the students. Student One increased his mean comprehension score from 77% to 97%, with a maintenance score of 90%. Student Two increased his mean comprehension score from 55% to 95%, with a maintenance score of 100%. Student Three demonstrated an increase in mean score from 67% to 96%, with a maintenance score of 100%. Content analysis of the student-completed Venn diagrams revealed that the mean number of propositions recorded during intervention across students and passages was 66% while the mean reading comprehension score was 97%. The mean number of errors on the Venn diagrams during the intervention was 0.13%. The mean number of propositions recorded during maintenance across students and passages was 41%. The average reading comprehension score was 100%. The mean number of errors during maintenance was one. Errors on the Venn diagram did not translate into lower comprehension scores with students scoring 100% on comprehension questions on all but one occasion. The researchers finding demonstrated that systematic and explicit instruction targeting text structure increased the ability of lower reading level students to attend to academic content.

Given these points, compare/contrast and cause/effect text structure instruction affected student learning. The Williams et al. (2005) and Williams et al. (2014) studies indicated that text structures can be taught successfully to at-risk elementary students. Students at this level have not mastered word recognition and fluency, but they can benefit from explicit instruction in expository text structure, specifically in the cause/effect and compare/contrast structures (Williams et al., 2014). Williams et al. (2013) determined that compare/contrast text structure instruction increased students'

ability to comprehend expository text. The previous Williams et al. (2005) study also determined that text structure instruction at the second grade level assisted students in improved text comprehension. Carnahan & Williamson (2013) also determined that students with autism spectrum disorder benefitted from specific instruction in text structures.

Conclusion

With greater emphasis on expository text comprehension after the adoption of the Common Core State Standards (National Governors Association Center for Best Practices (NGA Center) & Council of Chief State School Officers (CCSSO), 2010), it has become increasingly important to teach expository text comprehension strategies at the elementary and middle school levels. Through the use of expository text structure instruction, teachers are able to provide students with strategies to identify important information and relationships between ideas in expository texts. In addition, the strategies promote student comprehension of complex expository texts (Hall, Sabey, & McClellan, 2005, p. 215).

The Gilliam, Fargo, and Robertson (2009) study presented the importance of the use of think-alouds in expository text comprehension. Student think-aloud data provided researchers with information about student comprehension that is not readily available in typical reading comprehension measures. Researchers were able to determine the reading processes used by students as they read difficult expository texts. The Kraemer, McCabe, and Sinatra (2012) study examined the effects of expository text read-alouds on the listening comprehension and book choice of first graders. This study revealed that read-alouds did affect the expository reading comprehension of first grade students. This

study suggested that exposure to expository texts through the use of read-alouds will prepare students for the comprehension of content material in subsequent grade levels. DiCecco and Gleason (2002) examined the effects of using graphic organizers to convey and cue relational knowledge and they determined that the use of graphic organizers assisted in teaching relational knowledge to students with learning disabilities. Hebert, Graham, Rigby-Wills, and Ganson (2014) determined that writing about text improves reading comprehension for fourth grade students. The Stagliano and Boon (2009) concluded that the use of the story-mapping procedures is an effective reading comprehension technique. Kucan and Beck (2003) investigated the possible influence of talk on students' comprehension of expository text. The findings suggested that inviting students to communicate their understanding of text ideas as they construct it supported their reading comprehension.

The Hall, Sabey, and McClellan (2005) study examined the effects of text structure instruction on elementary aged students. This study demonstrated the importance of instruction in text structure awareness. The strategies used to teach text structure awareness in this study included clue word instruction and the use of graphic organizers. The strategies appeared to have an effect on student comprehension of expository texts. The Meyer et al. (2010) study used a web-based tutoring program to teach expository text structure to fifth and seventh grade readers. The results from this study demonstrated that the web-based tutoring when paired with immediate feedback, effect student learning of expository text. The Meyer et al. (2002) study assessed the impact of using an online tutoring program focused on the structure strategy with the aid of an adult tutor with fifth grade students. The Meyer et al. (2002) study supported the

hypothesis that structure strategy training with the aid of tutors increased total recall of text.

Finally, the Williams et al. (2005) study focused on the effects of compare/contrast expository text instruction on student comprehension. The findings of this study indicated that elementary aged students do benefit from text structure instruction even without extensive control of word recognition or fluency. The Williams et al. (2014) study found the same results. The researchers discussed the importance of starting the text structure instruction at the second grade level because this instruction encourages students to look for structural clues in expository texts as they become more challenging in later years. Carnahan & Williamson (2013) evaluated the use of a compare-contrast strategy on the ability of students with autism spectrum disorder to comprehend science text. The researchers discovered that systematic and explicit instruction targeting text structure increased the ability of students with lower reading levels to comprehend science text.

CHAPTER THREE: METHODOLOGY

The purpose of this study was to determine the effect of compare/contrast and cause/effect text structure instruction on fifth grade readers' comprehension of expository text. Explicit and systematic instruction in expository text structure can be effective for struggling readers. Understanding expository text structure is critical to the comprehension and construction of retellings and summaries (Caldwell & Leslie, 2013). Well-written expository text has an internal structure that aids the reader in comprehension. The best readers use what they know about how writers structure text to more easily locate the information they need to comprehend the text (Duffy, 2014). The work of the reader is particularly important when approaching expository texts with various text structures. There is evidence that instructional practices have not effectively fostered the independent reading of expository complex texts (National Governors Association Center for Best Practices [NGA Center] & Council of Chief State School Officers [CCSSO], 2010). The research described below examined the effects of explicit instruction in expository text structure on the reading comprehension of struggling fifth grade students. This chapter will describe the action research participants, the procedure used for the intervention, and the data collection process.

Description of the Sample

The researcher used a case study design to examine the effects of text structure instruction on the comprehension of struggling fifth grade students' comprehension. A case study design was used because the researcher wanted to able to closely examine the effects of expository text structure instruction on a particular group of fifth grade students' expository reading comprehension. The participants' were closely monitored

through the use of formative and summative assessments in order to ensure that this intervention was successful. The participants in this study were three fifth grade students who attended a public elementary school in the Midwest. The school served approximately 235 students kindergarten through fourth grade. Two of the participants were male, while one participant was female; two of the participants Caucasian, while one was Hispanic. Two of the students were diagnosed with specific learning disabilities in the area of reading. The students were selected to participate in this study due to their reading comprehension difficulties. In the past, the researcher used the Leveled Literacy Intervention (Fountas & Pinnell, 2009), but the researcher wanted to use a comprehension intervention that focused solely on expository text structure. The participants were selected for this study using an analysis of previous district reading comprehension assessments: the end of the year Fountas and Pinnell Benchmark Assessment (Fountas & Pinnell, 2011) and the AIMSweb MAZE (Pearson, 2015) assessment. The Fountas and Pinnell Benchmark Assessment was utilized to determine the students' instructional reading level. This assessment was used to assess reading accuracy, fluency, and comprehension. The AIMsweb MAZE assessment was an additional comprehension measure. This assessment was a multiple-choice cloze task that students complete while silent reading. Every seventh word in the passage was replaced with three words in parenthesis. The student had to choose the correct word that completed the sentence.

Procedure

The first week of the study was a week in which the researcher collected pre assessment data. The students were assessed using the Fountas and Pinnell Benchmark Assessment System, Scholastic Reading Inventory (SRI; Scholastic, 2015), and

AIMsweb MAZE. After the assessment, the students were introduced to the concept of text structures and then more specifically what the compare/contrast text structure was by the researcher using picture books, instruction in compare/contrast target words, and a graphic organizer. Examples of compare and contrast words introduced included *as well as, also, too, like/unlike, similarly, same as, and alike/different*. Examples of cause and effect words introduced included *so, so that, because, since, if…then, as a result of, and for this reason*. The words and phrases were chosen because they were signals for the different text structures. This introduction was a week in duration and consisted of the researcher instructing the students on the compare/contrast text structure. The second week involved the students working together as a group analyzing different articles taken from scholastic.com and readworks.org by searching for target words, as well as completing graphic organizers associated with the compare/contrast text structure. The students were instructed to analyze one article every two days. Across the two days, the participants read the article, highlighted target words, and added to their graphic organizers. The compare and contrast text passages were selected at a third and fourth grade reading level. These articles were chosen because the participants were at this reading level. During the fourth week, the students independently worked on compare/contrast articles by finding target words and using a graphic organizer. Once again the students were directed to read one article every two days, highlight target words, and continually complete graphic organizers. The graphic organizers completed during this independent work time enabled the researcher to determine what the students learned about this text structure. On the fifth day of each week, the participants were

instructed to read a compare and contrast article independently and complete a graphic organizer as a formative assessment (see Appendices A & F).

The students were then introduced to the cause/effect text structure in Week Five. The researcher instructed the students with this text structure through the use of picture books, target words, and a graphic organizer. Students then collaborated in groups with this text structure in Week Six as they read cause/effect articles and found target words and completed graphic organizers. The students were instructed to complete one article every two days. The participants read the article, highlighted target words, and completed the graphic organizer. The next week the students worked independently with cause/effect articles as they found target words and filled out their graphic organizers. Once again the students were instructed to read one article every two days, highlight cue words, and continually complete graphic organizers. Once again, the student work samples this week demonstrated to the researcher what the students had learned. The cause and effect articles were chosen at the third and fourth grade level based on the participants' instructional reading levels. The final week of the study was used for post assessment (see Appendices C & H).

Prior to the intervention, the students were assessed using the Fountas and Pinnell Benchmark Assessment System, Scholastic Reading Inventory (SRI; Scholastic, 2015), and the AIMSweb MAZE (Pearson, 2015) test. The Fountas and Pinnell Benchmark Assessment (Fountas & Pinnell, 2011) was designed to assess a student's ability to read aloud and comprehend text. The purpose of the assessment was to determine a student's instructional reading level. Students read the passage aloud as the proctor recorded any errors while reading. The students then answered within the text, beyond the text, and

about the text questions prompted by the proctor. An example of a within the text question would be "What did you learn about spiders from reading this text?" An example of a beyond the text question would be "Why do you think people are afraid of spiders?" An example of an about the text question would be "Why is the title *Spider Myths* a good title for this book?" The students were proctored to answer orally and the researcher assessed their answers as either *excellent, satisfactory, limited*, or *unsatisfactory* based on their responses. The Scholastic Reading Inventory (SRI; Scholastic, 2015) provided the researcher with student Lexile levels. Students completed this assessment online. The AIMsweb MAZE assessment was an additional comprehension measure. This assessment was a multiple-choice cloze task that students complete while silent reading. Every seventh word in the passage is replaced with three words in parenthesis. The student had to choose the correct word that completed the sentence. The students also read both a compare and contrast passage (America's First People) (Scholastic, 2015) and a cause and effect passage (A "Peachy" Beach Day) (Scholastic, 2015). The participants completed a text structure graphic organizer regarding the passage after reading. The compare and contrast graphic organizer had a "How are they alike?" section as will as "How are they different?" sections. The cause and effect graphic organizer had four cause and effect sections. The researcher used rubrics to assess the graphic organizers (see Appendices C-D).

Data Collection

The researcher gathered a variety of formative and summative assessments including the Fountas and Pinnell Benchmarking System, AIMsweb MAZE scores, SRI, a compare/contrast graphic organizer (IRA/NCTE, 2011), and a cause/effect graphic

organizer (The Florida Center of Reading Research, 2008). The researcher used the non-fiction Fountas and Pinnell benchmark assessment, SRI, MAZE as the pre assessment and post assessment. The researcher used the Fountas and Pinnell Benchmarking System to measure how many comprehension questions were answered correctly after the intervention. The AIMsweb MAZE pretest scores were compared to the post assessment scores to determine growth. The SRI Lexile scores were used to demonstrate growth in comprehension/vocabulary skills. The researcher used the graphic organizers as a pre assessment, a formative assessment during the intervention, and a summative assessment at the end of the study to assess student growth with the text structure content. The compare/contrast and cause/effect graphic organizers were scored with a rubric and used to demonstrate growth with the specific text structures.

Summary

The comprehension of expository texts is increasingly important following the adoption of the Common Core State Standards (National Governors Association Center for Best Practices (NGA Center) & Council of Chief State School Officers (CCSSO), 2010). Students need to learn strategies that will assist them in comprehending more complex texts. As students transition into the reading to learn stage at the fourth grade level, they need strategies that will assist them in expository reading comprehension. Expository text structure instruction better prepares students in their reading comprehension in fourth and fifth grade.

CHAPTER FOUR: RESULTS

Small group text structure instruction was implemented across eight weeks to assess the effects of expository text structure instruction on struggling fifth grade students' reading comprehension. The first week of the study was a benchmarking week where the researcher collected foundational assessment data. The students were assessed using the Fountas and Pinnell Benchmark Assessment System (Fountas & Pinnell, 2010), Scholastic Reading Inventory (SRI; Scholastic, 2015), and AIMsweb MAZE assessment. The Fountas and Pinnell Benchmark Assessment was used to determine the students' instructional reading level. This assessment was used to assess reading accuracy, fluency, and comprehension. The AIMsweb MAZE assessment was an additional comprehension measure. This assessment is a multiple-choice cloze task that students complete while silent reading. Every seventh word in the passage was replaced with three words in parenthesis. The student had to pick the correct word that completes the passage. The SRI assessment was administered online and was used to find a student's Lexile level. After assessing, the students were introduced to the compare/contrast text structure by the researcher using picture books, instruction in compare/contrast target words (*as well as, also, too, like/unlike, similarly, same as, and alike/different)*, and a graphic organizer. This introduction was a week in duration and consisted of the researcher instructing the students on the compare/contrast text structure. The second week involved the students working together as a group analyzing different articles by searching for target words, as well as completing graphic organizers associated with the compare/contrast text structure. The researcher located the articles from sites such as readwritethink.org, scholastic.com, and readworks.org. The fourth week was a week

where the students independently worked on compare/contrast articles by finding target words and using a graphic organizer. This independent work time enabled the researcher to determine what the students had learned about this text structure. The students were then introduced to the cause/effect text structure in week five. The researcher instructed the students with this text structure through the use of picture books, target words (*so, so that, because, since, if…then, as a result of, and for this reason)*, and a graphic organizer. Students then worked in groups with this text structure in week six as they read cause/effect articles and located target words and completed their graphic organizers. The next week the students worked independently with cause/effect articles as they located target words and completed graphic organizers. This week demonstrated to the researcher what the students learned. The last week of the study was used for post assessment. The results of the measures were presented in the next section of this chapter.

Data Analysis

The first assessment completed in this study was the Fountas and Pinnell Benchmarking Assessment (Fountas & Pinnell, 2011). This assessment was administered as a pre and post assessment. The Fountas and Pinnell Benchmark Assessment (Fountas & Pinnell, 2011) was designed to assess a student's ability to read aloud, comprehend text, and determine a student's instructional reading level. Students read the passage aloud as the proctor recorded errors while reading. The students then answered within the text, beyond the text, and about the text questions prompted by the proctor. An example of a within the text question would be "What did you learn about spiders from reading this text?" An example of a beyond the text question would be

"Why do you think people are afraid of spiders?" An example of an about the text question would be "Why is the title *Spider Myths* a good title for this book?" The students were prompted to answer orally and the researcher assessed their answers as either *excellent, satisfactory, limited*, or *unsatisfactory* based on their responses.

The pre assessment results for the Fountas and Pinnell Benchmarking Assessment indicated that Student A's instructional reading level was Level O which is a third grade reading level. The student scored *satisfactory* on the within the text questions, *satisfactory* on the beyond the text questions, and *excellent* on the about the text questions. The questions were presented in a conversation format. The researcher used question prompts when needed. The student responses were scored as being *excellent, satisfactory, limited, or unsatisfactory*. Student A achieved seven of ten on the comprehension conversation. Student B's instructional reading level was also a Level O. The student scored *excellent* on the within the text questions, *satisfactory* on the beyond the text questions, and *satisfactory* on the about the text questions. Student B also achieved seven of ten on the comprehension conversation. Student C's instructional reading level was a Level N. This student scored *excellent* on the within the text questions, *excellent* on the beyond the text questions, and *satisfactory* on the about the text questions. Student C achieved an eight of ten on the comprehension conversation.

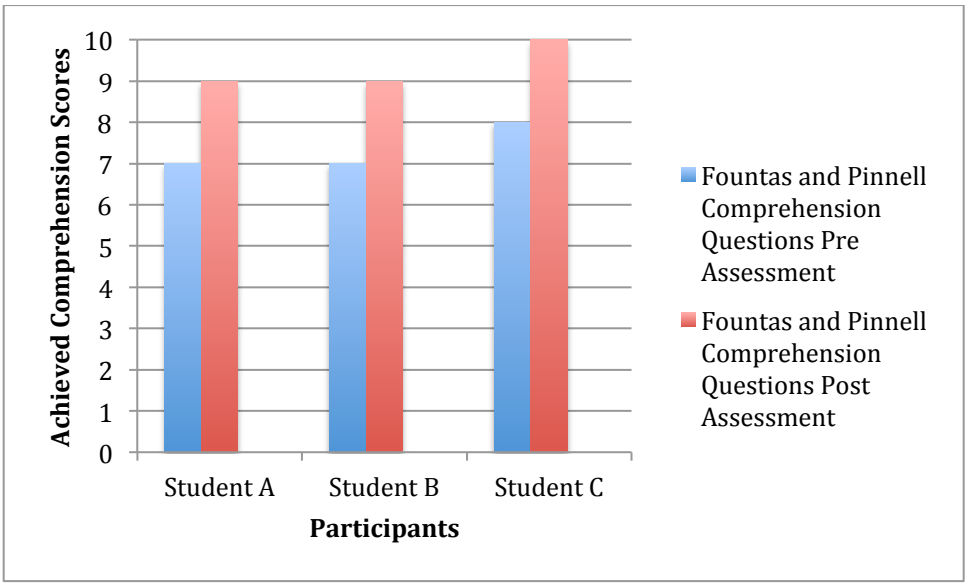

Figure 1. Pre Assessment and Post Assessment results for the Fountas and Pinnell Benchmarking Assessment

The post assessment results for the Fountas and Pinnell Benchmarking Assessment suggested that after the intervention Students A and B increased their reading comprehension scores from a score of seven to a score of nine at Level O. Both students scored *excellent* in all of the question categories. Student C's comprehension score increased from a score of eight to a score of ten at Level N. This student scored *excellent* in all of the question categories and added additional background knowledge about the topic, which added another point to the final score (see Appendices I-J). The mean of the post assessment was 9.33. The mean increased from pre assessment to post assessment by 2.0 from 7.33 to 9.33(see Figure 1).

A one-tail dependent *t*-test was used to test the researcher's hypothesis that students' comprehension of expository text would improve on the post assessment comprehension measure. There was not a significant difference in the scores for the pre assessment (M=7.33, SD=.58) and the post assessment (M=9.33, SD=.58). The

researcher was not able to determine a *t*-test score because the difference between the participants' pre and post assessment data was not significant. The results suggested that the intervention was successful in improving students' ability to comprehension expository text, but not significantly. However, students' Fountas and Pinnell instructional reading levels did not reflect proficiency in fifth grade.

Scholastic Reading Inventory Results

After the Fountas and Pinnell Benchmarking Assessment was completed, the students were assessed using the Scholastic Reading Inventory (SRI; Scholastic, 2015). The SRI was used as a pre and post assessment. The SRI provided the researcher with student Lexile levels. Students completed this assessment online. The pre assessment results for the SRI indicated that Student A achieved a Lexile score of 450, Student B achieved a Lexile score of 475, and Student C achieved a Lexile score of 165. The pre assessment mean was 363.33 (see Figure 2). According to Scholastic (2015), a fifth grade students' Lexile level should be in the 875L-1010L range. The student data indicated that the participants were reading below grade level.

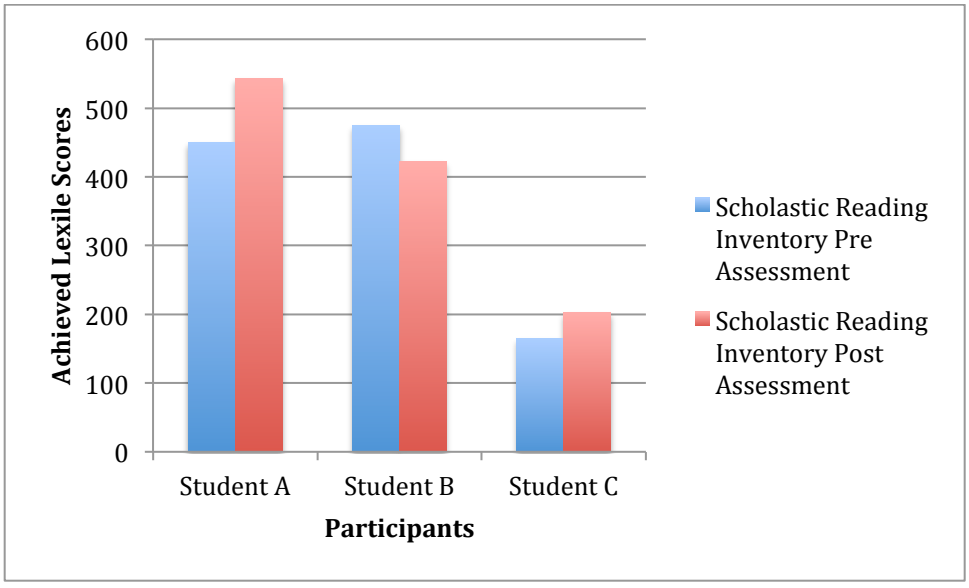

Figure 2. Pre Assessment and Post Assessment results for the Scholastic Reading Inventory

The post assessment results for the Scholastic Reading Inventory suggested that after the intervention, Students A and C increased their Lexile scores. Student A's Lexile score increased from a 450 to a 543. Student C's Lexile score increased from a 165 to a 202. Student B's Lexile score decreased from a 475 to a 423. The post assessment mean was 389.33 (see Figure 2). The difference in the pre and post assessment means was 26 from 363.33 to 389.33.

A one-tail dependent *t*-test was used to test the researcher's hypothesis that a students' Lexile score would improve on the post assessment SRI measure. There was not a significant difference in the scores for the pre assessment (M=363.33, SD=172.22) and the post assessment (M=389.33, SD=172.97); $t(3)= .3003$, $p= .05$. The results suggested that the intervention was successful in improving students' Lexile scores, but not significantly. However, students' Lexile scores did not reflect proficiency in fifth grade.

AIMSweb MAZE Results

After the Scholastic Reading Inventory was completed, the students were assessed using the AIMSweb MAZE (Pearson, 2015) assessment. The AIMsweb MAZE assessment was an additional comprehension measure and was used as a pre and post assessment as well. This assessment was a multiple-choice cloze task that students complete while silent reading. Every seventh word in the passage was replaced with three words in parenthesis. The student had to choose the correct word that completed the sentence. The pre assessment results indicated that Students A and B achieved a

score of 14 and Student C achieved a score of 7. The mean of the pre assessments was 11.67.

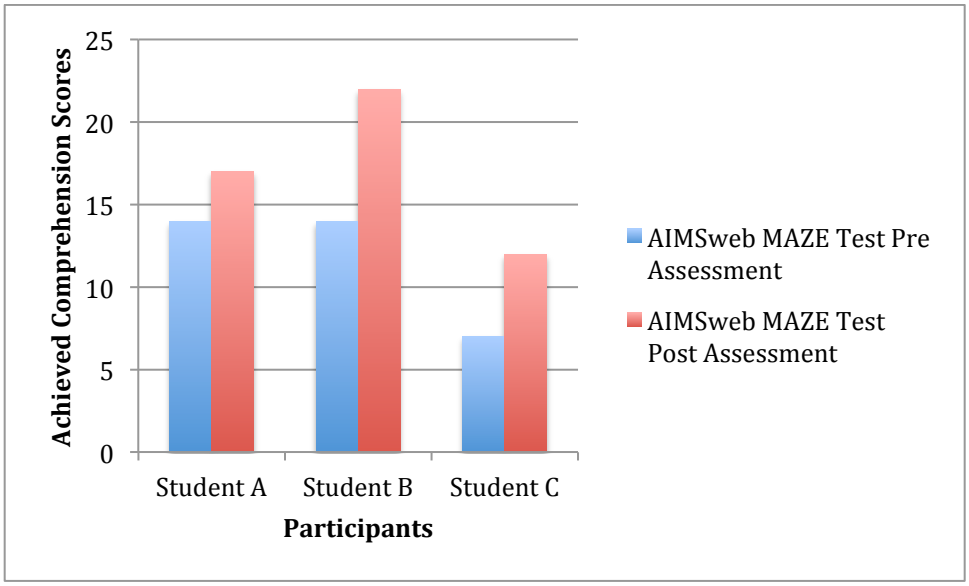

Figure 3. Pre Assessment and Post Assessment for the AIMSweb MAZE assessment

The post assessment results for the AIMSweb MAZE assessment suggested that after the intervention, the students increased their scores. Student A's score increased from a 14 to a 17, Student B's score increased from a 14 to a 22, and Student C's score increased from a 7 to a 12. The mean of the pre assessment was 11.67 and the mean post assessment was 17 (see Figure 3). The difference in the pre and post assessment means was 5.33.

A one-tail dependent *t*-test was used to test the researcher's hypothesis that a students' comprehension score would improve on the post assessment AIMSweb MAZE assessment. There was not a significant difference in the scores for the pre assessment (M=11.67, SD=4.04) and the post assessment (M=17, SD=5); $t(3)$= .0334, p= .05. The results suggested that the intervention was successful in improving students' comprehension scores, but not significantly.

Compare and Contrast Graphic Organizer Results

Next, the researcher used a compare and contrast passage and graphic organizer to assess the student's understanding of the compare and contrast text structure (see Appendices A & E). The students read the compare and contrast passage titled *America's First People* (Scholastic, 2015) and completed the graphic organizer. The graphic organizer was then scored on a rubric (see Appendix B). The rubric was adapted from a rubric on readwritethink.org (2011). The rubric was utilized to assess text support of comparison statements, placement of statements within the graphic organizer, and number of quality statements. The graphic organizers were assessed on a three-point scale. A one represented *Not in Evidence,* a two represented *Progressing,* and a three represented a *Strong Grasp*. This assessment was used as a pre and post assessment to assess growth with the text structure.

The pre assessment results for the compare and contrast graphic organizer indicated that Students' A, B, and C scored a one or *Not in Evidence* in all areas of the rubric. The students were not able to identify any compare and contrast relationships supported by the text. The pre assessment provided evidence that the students had little to no background on the compare and contrast text structure. The mean of the pre assessments was 3 (see *Figure 4)*.

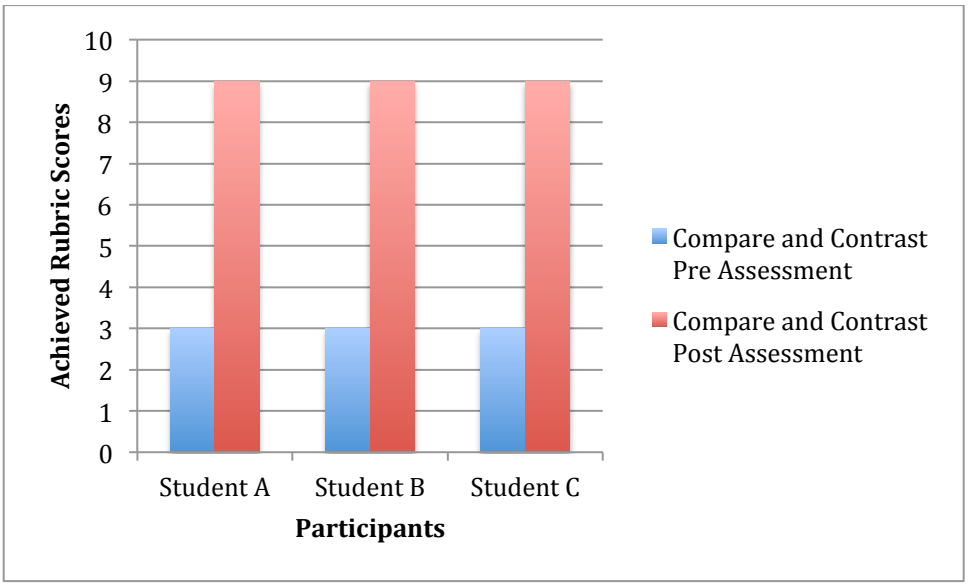

Figure 4. Pre and Post Assessment for the Compare and Contrast Text Structure

Post assessment results for the compare and contrast rubric indicated that after the instruction, the students' scores increased from 3 to 9. Compare and contrast statements were supported by the text, the similarities were placed in the center box, the differences were placed in the outer boxes, and the students were able to complete five or more comparison statements in each box. The mean of the post assessments was 9.

A one-tail dependent *t*-test was used to test the researcher's hypothesis that a student's compare and contrast knowledge would improve on the post assessment. There was not a significant difference in the scores for the pre assessment (M=3, SD=0) and the post assessment (M=9, SD=0). The researcher was not able to run a *t*-test because the participants' pre and post assessment data was the same. All of the students made the same amount of growth based on pre and post assessment data.

To collect formative data, the researcher assessed the students' knowledge of the compare and contrast text structure using a different compare and contrast passage, but with the same graphic organizer and rubric. The researcher used this assessment on the

second and third Fridays of the compare and contrast text structure instruction block which spanned three weeks. The students read *Drilling for Alaska's Oil* (Weekly Reader Cooperation, 2007) and completed a compare and contrast graphic organizer. The graphic organizers were then assessed on the same compare and contrast rubric.

The pre assessment results for the compare and contrast formative assessment indicated that Students A and C scored a 7 of 9 on the compare and contrast rubric. Both students were able achieved a score of *Progressing* in the areas of text support of comparison statements and number of quality statements and a score of *Strong Grasp* in the area of placement of statements within the graphic organizer. Student B scored a 4 on the compare and contrast rubric. This student achieved *Progressing* in the placement of statements within the graphic organizer and *Not in Evidence* in the areas of text support of comparison statements and number of quality statements. The pre assessment mean was 6 (see *Figure 5)*.

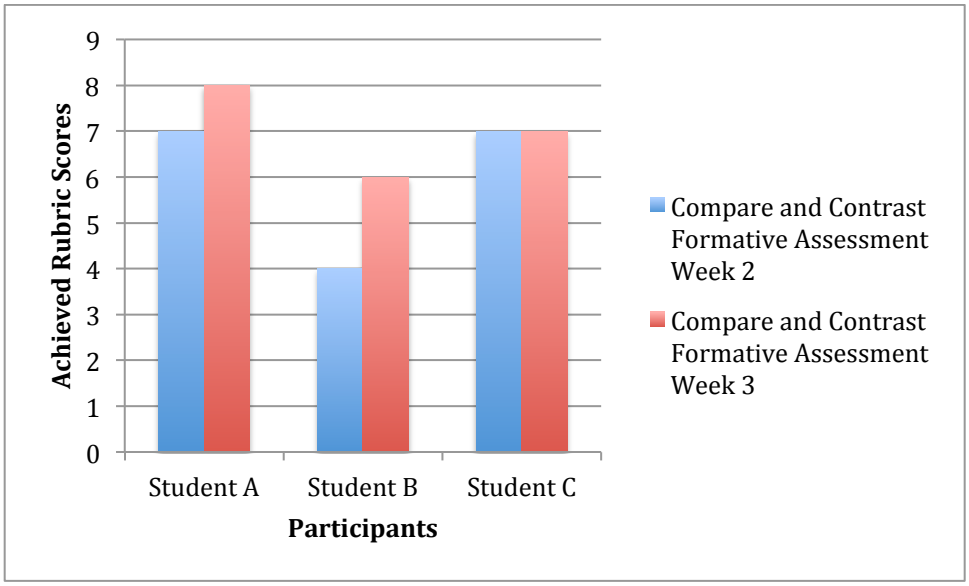

Figure 5. Compare and Contrast Formative Pre and Post Assessment Results

The post assessment results indicated that the students gained in their understanding of the compare and contrast text structure. Student A's score increased from a 7 to an 8, Student B's score increased from a 4 to a 6, and Student C's score stayed at a 7 out of 9. Student A achieved a rating of *Strong Grasp* in the areas of text support of comparison statements and placement of statements within the graphic organizer and *Progressing* in the area of number of quality statements. Student B achieved a rating of *Strong Grasp* in the area of placement of statements within the graphic organizer and *Progressing* in the areas of text support of comparison statements and number of quality statements. Student C achieved a rating of *Progressing* in all of the rubric areas. The mean of the post assessment was 7.

A one-tail dependent *t*-test was used to test the researcher's hypothesis that a student's compare and contrast knowledge would improve on the post assessment. There was not a significant difference in the scores for the pre assessment (M=6, SD=1.73) and the post assessment (M=7, SD=1); $t(3)$= .1127, p= .05. The results suggested that the intervention was successful in improving students' compare and contrast scores, but not significantly.

Cause and Effect Graphic Organizer Results

Next, the researcher used a cause and effect passage and graphic organizer to assess the student's understanding of the cause and effect text structure (see Appendices C & G). The students read the passage titled *A "Peachy" Beach Day* (Scholastic, 2015) and completed the graphic organizer. The graphic organizer was then scored on a rubric. The rubric was adapted from readwritethink.org (IRA/NCTE, 2006) (see Appendix D). The rubric was utilized to assess the number of cause and effect relationships, clear

descriptions, and language conventions. The graphic organizers were assessed on a four-point scale. This assessment was used as a pre and post assessment to assess growth with the cause and effect text structure.

The pre assessment results for the cause and effect graphic organizer indicated that Students A and B achieved a score of 3 of 12. Both students scored a 1 in the areas of number of cause and effect relationships, clear descriptions, and language conventions. Student C achieved a score of 5 of 12 on the cause and effect rubric. This student scored a 3 in the area of number of cause and effect relationships and a 1 in the areas of clear descriptions and language conventions. The post assessment mean was 3.76 (see *Figure 6)*.

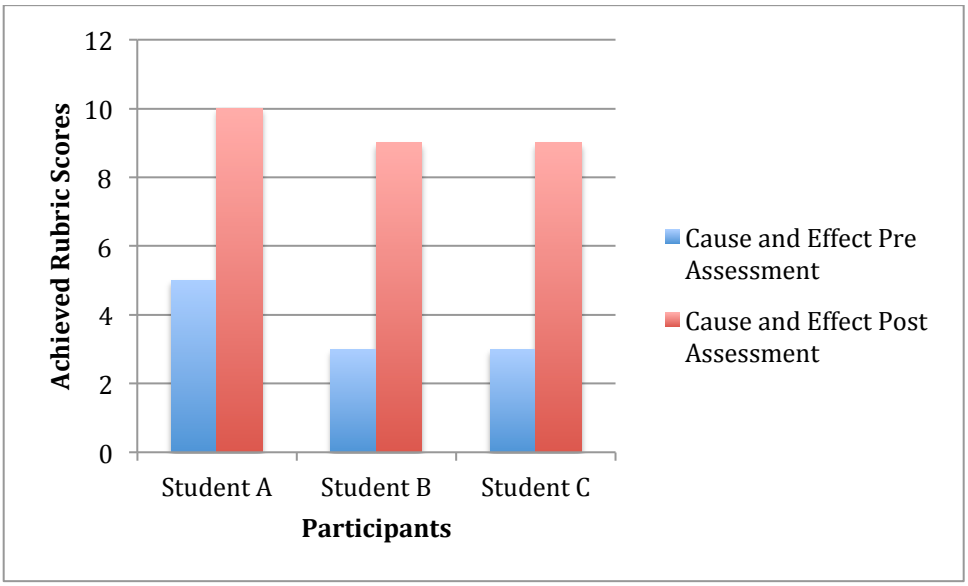

Figure 6. Pre and Post Assessment for the Cause and Effect Text Structure

The post assessment results indicated that all of the students gained in their understanding of the cause and effect text structure. Student A's score increased from 5 to 10 and Student B and C's score increased from 3 to 9. Student A achieved a score of 4 in the areas of number of cause and effect relationships and clear descriptions and a 2 in

the area of language conventions. Students B and C achieved a score of 4 in the areas of number of cause and effect relationships and clear descriptions and a 1 in the area of language conventions. The mean of the post assessment was 9.33.

A one-tail dependent *t*-test was used to test the researcher's hypothesis that a student's cause and effect knowledge would improve on the post assessment. There was not a significant difference in the scores for the pre assessment (M=3.67, SD=1.15) and the post assessment (M=9.33, SD=.58); $t(3)= .0017$, $p= .05$. The results suggested that the intervention was successful in improving students' cause and effect scores, but not significantly.

To collect formative data, the researcher assessed the students' knowledge of the cause and effect text structure using a different cause and effect passage, but used the same graphic organizer and rubric. The researcher used this assessment on the second and third Fridays of the cause and effect text structure instruction block which spanned three weeks. The students read *Dead Zone* (Weekly Reader Cooperation, 2007) and completed the cause and effect graphic organizer. The graphic organizers were then assessed on the same cause and effect rubric.

The pre assessment results for the cause and effect formative assessment indicated that Students A and B scored a 5 of 12 on the compare and contrast rubric. Both students were able achieved a score of 2 on the number of cause and effect relationships and clear descriptions sections and a 1 in the language conventions section. Student C scored a 6 of 12 on the cause and effect rubric. This student achieved a score of 3 in the are of number of cause and effect relationships, a 2 in the area of clear descriptions, and a 1 in language conventions. The pre assessment mean was 6 (see *Figure 7).*

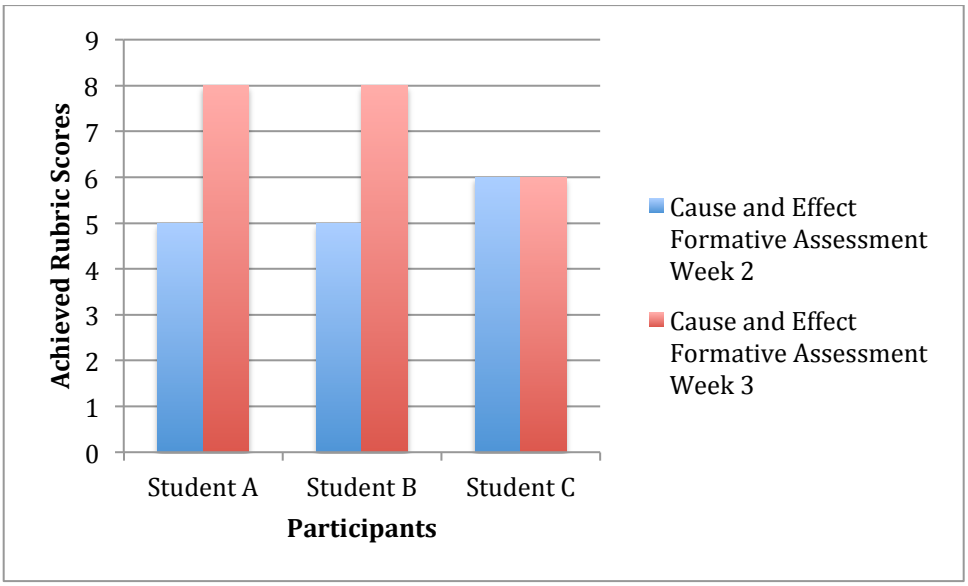

Figure 7. Compare and Contrast Formative Pre and Post Assessment Results

The post assessment results indicated that two of the students gained in their understanding of the cause and effect text structure. Student A and B's scores increased from 5 to 8. These students achieved a score of a 4 in the area of number of cause and effect relationships, a 3 in the area of clear descriptions, and a 1 in the area of language conventions. Student C's scores remained the same on the post assessment. The mean on the post assessment was a 7.33.

A one-tail dependent *t*-test was used to test the researcher's hypothesis that a student's cause and effect knowledge would improve on the post assessment. There was not a significant difference in the scores for the pre assessment (M=5.33, SD=.58) and the post assessment (M=7.33, SD=1.15); $t(3)$= .0917, p= .05. The results suggested that the intervention was successful in improving students' cause and effect scores, but not significantly.

Conclusion

This chapter summarized the data collected throughout the research study. The research question was: Does compare and contrast and cause and effect text structure instruction improve struggling fifth grade readers' comprehension of expository text? The data collection for this research study through the use of pre assessment, post assessment, and formative assessment, suggested that explicit instruction on compare and contrast and cause and effect text structures increased students' ability to comprehend expository text. The text structure assessment results suggested that after an eight-week text structure intervention, students increased their ability to answer comprehension questions after reading an expository passage and increased their knowledge of the compare and contrast and cause and effect text structures based on the pre and post assessments and formative assessment. Although assessment results were not significant, the participants demonstrated growth on six of the seven assessments. The final chapter of this research project examined the data in relation to the Common Core State Standards (National Governors Association Center for Best Practices [NGA Center] & Council of Chief State School Officers [CCSSO], 2010), expository text instruction, expository text structure instruction, and compare and contrast and cause and effect text structure instruction. The chapter also examined the strengths and limitations in this study and the researcher's recommendations for future research.

CHAPTER FIVE: CONCLUSIONS

The knowledge of text structures is essential for reading comprehension to occur, especially when readers have little background knowledge or experience of the topics, which is often the case with content area reading (Carnahan & Williamson, 2013). The researcher used a case study design to examine the effects of compare and contrast and cause and effect text structure instruction on the comprehension of struggling fifth grade students' comprehension. A case study design was used because the researcher wanted to able to closely examine the effects of expository text structure instruction on a particular group of fifth grade students' expository reading comprehension. The action research participants were fifth grade students who attended a public elementary school in the Midwest. The students were selected to participate in this study due to their reading comprehension difficulties. In the past, the researcher used the Leveled Literacy Intervention (Fountas & Pinnell, 2009), but the researcher wanted to use a comprehension intervention that focused solely on expository text structure. The data collection suggested that the students increased their expository reading comprehension based on the results of the Fountas and Pinnell Benchmarking Assessment (Fountas & Pinnell, 2011), AIMSweb MAZE (Pearson, 2015) assessment, and Scholastic Reading Inventory (SRI; Scholastic, 2015), but not significantly. The data collection also suggested that the students' knowledge of the compare and contrast and cause and effect text structures had increased as a result of the intervention, but not significantly. Chapter Five will connect this intervention to the Common Core State Standards (National Governors Association Center for Best Practices [NGA Center] & Council of Chief State School Officers [CCSSO], 2010), current research in the areas of expository text instruction, text structure

instruction, and compare and contrast and cause and effect text structure instruction, as well as include an explanation of the results. Strengths and limitations for the study will be discussed, as well as recommendations for future studies.

Connection to the Common Core State Standards

The Common Core State Standards (National Governors Association Center for Best Practices [NGA Center] & Council of Chief State School Officers [CCSSO], 2010) state that, by the end of fourth grade, students should be able to describe the overall structure of events, ideas, concepts, and information in the text, or part of the text. According to the National Governors Association Center for Best Practices & Council of Chief State School Officers, students should also be able to read and comprehend complex literary and informational texts independently and proficiently. Current trends suggest that if students cannot read the challenging texts with understanding, they will read less in general. An avoidance of complex texts will likely lead to less knowledge about topics and may contribute to a decline in the ability to comprehend. Expository text structures in this standard include chronology, comparison, cause/effect, and problem/solution. Williams and colleagues suggested that the compare and contrast (Williams et al., 2009) and cause and effect (Williams, Nubla-Kung, Pollini, Stafford, Garcia, & Snyder, 2007) text structures presented a greater challenge than the other text patterns. The purpose of the text structure intervention was to place an emphasis on the compare and contrast and cause and effect text structures in order to increase student understanding of the specific text structures. The researcher used modeling and explicit compare and contrast and cause and effect text structure instruction to increase students' comprehension of expository texts.

Connections to Existing Research

Students need to be exposed to a variety of reading strategies to aid in their comprehension of expository text. Gilliam, Fargo, and Robertson (2009) examined the effects of the think-aloud strategy on expository reading comprehension. Once the study was completed, the researchers determined that the ability to paraphrase passage closely related to the ability to comprehend expository text. Unlike Gillam, Fargo, and Robertson (2009), Kraemer, McCabe, and Sinatra (2012) investigated the effects of listening to expository text on the listening comprehension and book choice of first-grade students. According to the post assessments, the researchers were able to conclude that students would be better prepared for reading and understanding content material if such material could be read aloud to them on a regular basis in the primary grades. In a like manner, Kucan and Beck (2003) conducted a study that compared the effects of two discourse environments on comprehension. The researchers findings suggested that inviting students to communicate their understanding of text ideas as they construct it supported their reading comprehension. Unlike the Kucan and Beck (2003) study, DiCecco and Gleason (2002) conducted a study to examine the effects of graphic organizers on the attainment of relational knowledge from expository text. The researchers concluded that the use of graphic organizers aids in teaching relational knowledge to students with learning disabilities. Similarly, Hebert, Graham, Rigby-Wills, and Ganson (2014) investigated the effects of notetaking and extended writing on expository text comprehension. The researchers concluded that writing about text improved reading comprehension for fourth grade students based on posttest data. Finally, Stagliano and Boon (2009) examined a procedure that improved and enhanced

expository reading comprehension. After the data was collected and analyzed, the researchers concluded that the use of the story mapping procedures is an effective reading comprehension technique.

The current study examined the effects of a text structure intervention on fifth grade readers' comprehension of expository texts. Unlike the previous studies, this case study focused only on expository text structures. Similar to the DiCecco and Gleason (2002) and Stagliano and Boon (2009) studies, students in this study used graphic organizers to demonstrate their understanding of expository texts. The graphic organizers were graded on rubrics and used as a pre assessment, post assessment, and formative assessment. The results suggested that explicit instruction in the areas of compare and contrast and cause and effect text structure did have a positive, but not statistically significant, effect on student comprehension of expository texts.

Unlike the Gilliam, Fargo, and Robertson (2009) study, the researcher did not require student think alouds when responding to the text. Students demonstrated their understanding of the text with the graphic organizers. The discourse about the graphic organizers demonstrated student growth, similar to the Kucan and Beck (2003) study. The researcher provided feedback to the students about their graphic organizers as they were working on them during Week 1.

Similar to the DiCecco & Gleason (2002) study, the post assessment data from the current study revealed the importance of using a combination of graphic organizers, intensive instruction, and writing when reading expository texts with struggling readers. It is also very important to provide instruction as a context for using the specific graphic organizers. The current researcher dedicated an entire week to the instruction of new

graphic organizers. The researcher modeled for the participants how to use the graphic organizer so that in the future sessions, the participants could focus all of their attention on the comprehension of the material. The researcher used read alouds when modeling, which was similar to the Kraemer, McCabe, and Sinatra (2012) study.

Effects of Text Structure Instruction

Teachers have used text structure instruction to assist young children with their expository text comprehension difficulties. Text structure awareness was found to be the foundation for expository text comprehension. Readers who understand a text's structure typically find greater success in identifying key information and relationships between ideas in a text (Hall, Sabey, & McClellan, 2005). Hall, Sabey, and McClellan (2005) conducted a study to examine the effectiveness of an instructional program designed to teach second graders how to comprehend expository text in a small group setting. The strategies used to teach text structure awareness in this study included clue word instruction and the use of graphic organizers. The strategies appeared to have an effect on student comprehension of expository texts based on post assessment data. Similarly, Meyer, Middlemiss, Theodorou, Brezinski, McDougall, and Bartlett (2002) conducted a study that examined the effects of structure strategy instruction delivered to fifth-grade children using Internet with and without the aid of older adult tutors. Overall, the findings for the participants supported the hypothesis that structure strategy training with the aid of tutors would increase total recall. Meyer et al. (2010) conducted another quasi-experimental study that investigated the effects of different versions of Web-based instruction focused on text structure on fifth- and seventh-grade students' reading

comprehension. The results of this study supported the hypothesis that structure strategy training with the aid of tutors increased total recall of text.

Similar to the Hall, Sabey, and McClellan (2005) study, the current case study examined the effects of a text structure intervention on the reading comprehension of struggling readers. Researchers in both studies used cue words and graphic organizers as tools to instruct students about the different text structures. Students in both studies demonstrated growth in expository reading comprehension due to their exposure to expository text structure instruction. Unlike the Meyer, Middlemiss, Theodorou, Brezinski, McDougall, and Bartlett (2002) and Meyer et al. (2010) studies, the current study was not proctored online. Students in this study used books and graphic organizers as tools to learn the text structures. However, both interventions with text structure instruction demonstrated student growth in the area of expository reading comprehension.

Effects of Compare/Contrast and Cause/Effect Text Structure Instruction

The best means of addressing expository text reading comprehension difficulties is through the use of quality instructional programs that teach vocabulary, text structure, and text signals (Hall, Sabey, & McClellan, 2005). Williams et al. (2005) studied the effectiveness of an instructional program designed to teach second graders how to comprehend compare-contrast expository text. The researchers determined that students not only learned content through the use of text structure instruction, they also learned how to process particular types of expository text. Similar to their previous study, Williams et al. (2013) conducted another study that evaluated the effectiveness of teaching cause/effect text structure with social studies content at the second grade level. The researchers determined that text structure instruction does have an effect on student

learning of social studies content. Finally, Carnahan and Williamson (2013) conducted a study that evaluated the use of a compare-contrast strategy on the ability of students with the autism spectrum disorder to comprehend science text. The researchers findings demonstrated that systematic and explicit instruction targeting text structure increased the ability of lower reading level students to attend to academic content.

Similar to the previous studies, the current researcher sought to examine the effects of a text structure intervention on the expository reading comprehension of struggling readers. The Williams et al. (2005) and Williams et al. (2013) studies examined the effects of the text structure intervention on second grade readers' expository text comprehension, however the current research examined the effects of the text structure intervention on fifth grade readers' expository text comprehension. According to the pre assessment data in the current study, the fifth grade students did not have a strong background on the compare and contrast and cause and effect text structures. If instruction on these structures began in second grade, the students' pre assessment data could have been different. The Williams et al. (2005) and Williams et al. (2013) study results demonstrated the importance of text structure instruction in the early grades, especially when instructing students on the cause and effect text structure.

Similar to the Carnahan and Williamson (2013) study, the researcher in the current study evaluated the use of the text structure intervention with middle school students with special needs. Two of the participants in this study were diagnosed with specific learning disabilities in the area of reading. The students were selected to participate in this study due to their reading comprehension difficulties. In the past, the researcher used the Leveled Literacy Intervention (Fountas & Pinnell, 2009), but the

researcher wanted to use a comprehension intervention that focused solely on expository text structure. The post assessment results in both studies indicated that text structure instructed does have a positive effect on expository reading comprehension. Although the participants in both studies are reading below grade level expectations, developing strategies to facilitate access to content more sophisticated than their reading levels is important to the academic and social success of these individuals (Carnahan & Williamson, 2013).

Explanation of Results

Small group text structure instruction was implemented during eight weeks to assess the effects of expository text structure instruction on three fifth grade students' reading comprehension. The research question was: Does compare and contrast and cause and effect text structure instruction improve struggling fifth grade readers' comprehension of expository text? The researcher formatted the weeks through modeling and scaffolded instruction. The researcher introduced to the concept of text structures and then more specifically what the compare/contrast or cause/effect text structures were through the use of picture books, instruction in compare/contrast target words, and a graphic organizer. The following week, the students worked together with the passages, target words, and graphic organizers and in the last week the students worked independently with the passages, target words, and graphic organizers.

The data collection including pre, post, and formative assessment, suggested that explicit instruction on compare and contrast and cause and effect text structures increased students' ability to comprehend expository text although not significant statistically. The Fountas and Pinnell Benchmarking Assessment (Fountas &Pinnell, 2011) was designed

to assess a student's ability to read aloud and answer comprehension questions. The participants in this study demonstrated growth on their post assessment with a mean of 9.33 from a mean of 7.33. In addition, two of the participants demonstrated growth on their Scholastic Reading Inventory (SRI; Scholastic, 2015) test, which provided the researcher with student Lexile levels. Student A increased from 450 to a 543 and Student C from 165 to a 202. Student B's score decreased from 475 to 423. The students demonstrated growth on their AIMSweb MAZE (Pearson, 2015) assessment, which was a multiple-choice cloze task with every seventh word replaced with three words in parenthesis. The students had to choose the correct word that completed the sentence. The mean of the post assessment (M= 17) was higher than the mean on the pre assessment (M=11.67). The results suggested that a text structure intervention positively effected student comprehension of expository text, but not statistically significantly.

The text structure assessment results suggested that after an eight-week text structure intervention, students increased their knowledge of the compare and contrast and cause and effect text structures based on the pre and post assessments and formative assessment, but not statistically significantly. The researcher used a compare and contrast passage and graphic organizer to assess the student's understanding of the compare and contrast text structure. The students read the compare and contrast passage titled *America's First People* (Scholastic, 2015) and completed the graphic organizer. The graphic organizer was then scored using a rubric adapted from readwritethink.org (2011). The rubric was utilized to assess text support of comparison statements, placement of statements within the graphic organizer, and number of quality statements. The graphic organizers were assessed on a three-point scale. A score of "one"

represented *Not in Evidence,* a "two" represented *Progressing,* and a "three" represented a *Strong Grasp*. The students increased from a mean of "3" on the pre assessment to a mean of "9" on the post assessment. The students were able to identify five or more compare and contrast statements on the graphic organizers on the post assessment. To collect formative data, the researcher assessed the students' knowledge of the compare and contrast text structure using a different compare and contrast passage, but with the same graphic organizer and rubric. The students once again demonstrated growth on post assessment increasing from a mean of 6 to 7.

The researcher used a cause and effect passage and graphic organizer to assess the student's understanding of the cause and effect text structure. The students read the passage titled *A "Peachy" Beach Day* (Scholastic, 2015) and completed the graphic organizer. The graphic organizer was then scored on a rubric adapted from readwritethink.org (IRA/NCTE, 2006). The rubric was utilized to assess the number of cause and effect relationships, clear descriptions, and language conventions. The graphic organizers were assessed on a four-point scale. The students increased from a mean of 3.67 on the pre assessment to a mean of 9.33 on the post assessment. The students were able to identify the four cause and effect relationships on the post assessment. To collect formative data, the researcher assessed the students' knowledge of the cause and effect text structure using a different cause and effect passage, but used the same graphic organizer and rubric. Again, students demonstrated growth from pre assessment to post assessment increasing from a mean of 5.33 to a post assessment mean of 7.33. Although this was only a small gain, the students still increased their understanding of the cause and effect text structure.

Strengths

Several factors contributed to the improvements the participants achieved throughout the intervention. The researcher and participants had a strong relationship before the intervention began. The researcher had worked with the same group of students the previous year and formed a trusting relationship. The participants knew what the expectations were when they entered the intervention classroom and they came prepared to work every day. The participants were also accustomed to the researcher's teaching style. Although the intervention was different, the expectations and teaching style remained the same.

Another contributing factor to the intervention success was the activities that were required while reading each passage. The students were required to read the passage, highlight target words, and complete a graphic organizer. The activities allowed the students to think about the text before, during, and after reading. The students were constantly monitoring their comprehension of the expository text passages with these activities.

Another factor that contributed to the success of the study was the timing of the study. The researcher was aware that students typically lose reading growth from the previous year during the summer. The students demonstrated progress in the previous year in the area of reading accuracy, but needed continued reading comprehension practice, especially with expository texts. The researcher wanted to begin the year with a comprehension intervention and the text structure intervention was a good fit for this purpose.

Limitations

Although this study provided information about the use of a text structure intervention, limitations did exist. The first limitation was that there were only three participants. The result of a small sample is that the results are not easily generalized to the rest of the population. Another result of a small sample is that correlations couldn't be easily calculated. In some cases, a *t*-test score could not be computed because the results of the pre and post assessments were the same.

Another limitation was the availability of resources for compare and contrast and cause and effect text structure instruction. The researcher struggled finding a variety of short passages at the third and fourth grade level for use in the study. The resources were limited and not always the highest quality. As a result, the researcher had to search through multiple resources to find quality passages.

An additional limitation was the attention span of the students. Some of the students struggled with remaining on task during the intervention period. At times, the teacher had to use prompts to engage students with the activities. The off task behaviors detracted from total instruction time. In addition, the students were distracted during the SRI assessment and were not able to stay focused on the computer for the amount of time required to complete the assessment. This inability to focus could be the reason why the assessment score decreased from pre to post assessment.

Finally, another limitation was the amount of time allotted for this study. The researcher only had six weeks of actual instruction time for thirty minutes a day. If there were more time, the researcher would have been able to incorporate more resources into the intervention. Also, the researcher would have been able to introduce more of the expository text structures with more time.

Recommendations for Further Study

Based on the results and researcher identified strengths and limitations of this research, the researcher has recommendations that would enhance future research with expository text structures. Although the compare and contrast (Williams et al., 2009) and cause and effect (Williams, Nubla-Kung, Pollini, Stafford, Garcia, & Snyder, 2007) text structures presented greater challenges than other text structures, the researcher believed that all of the text structures should be focused on in future text structure interventions. A future researcher should provide the participants a pre assessment on the various text structures and begin with a text structure that was familiar to the students as a beginning point. This background knowledge will provide students with a knowledge base for learning new text structures.

Another limitation of the text structure intervention was the amount of participants in the study. If there were more participants, would the conversations regarding the passages be stronger? Would the students work harder with more peers? If the groups were of mixed abilities, would the students have better support with the complex text structures?

The researcher also suggests incorporating more writing in future text structure interventions. Hebert, Graham, Rigby-Wills, and Ganson (2014) investigated the effects of note-taking and extended writing on expository text comprehension. According to the results of their research, writing about text improved reading comprehension for fourth grade students. The current researcher believes that incorporating more writing about expository text structures would further enhance the current intervention.

Conclusion

The text structure intervention results suggested that after an eight-week text structure intervention, students increased their ability to answer comprehension questions after reading an expository passage and increased their knowledge of the compare and contrast and cause and effect text structures. The knowledge of text structures is essential for reading comprehension to occur, especially when readers have little background knowledge or experience of the topics, which is often the case with content area reading (Carnahan & Williamson, 2013). Future research should focus on instruction on a variety of text structures, not just the compare and contrast and cause and effect structures. Expository text structures include chronology, comparison, cause/effect, and problem/solution (Duffy, 2014). Williams et al. (2005) found that students who received text structure instruction not only learned what they were taught, but they were able to transfer what they had learned to content beyond what was used in instruction.

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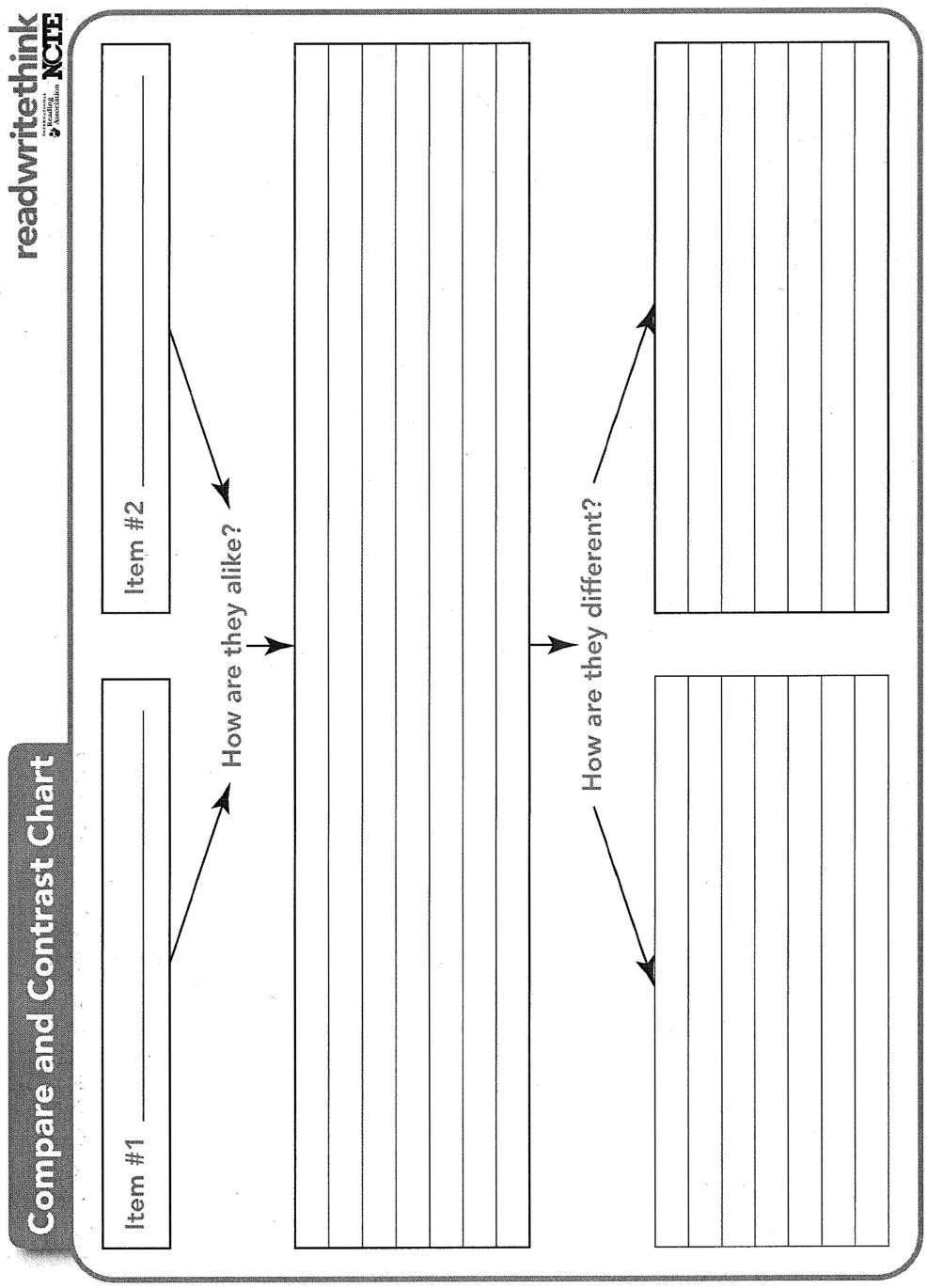
Appendix A

Compare and Contrast Chart



Appendix B

Compare/Contrast Rubric

Compare/Contrast Rubric

Objects being compared:

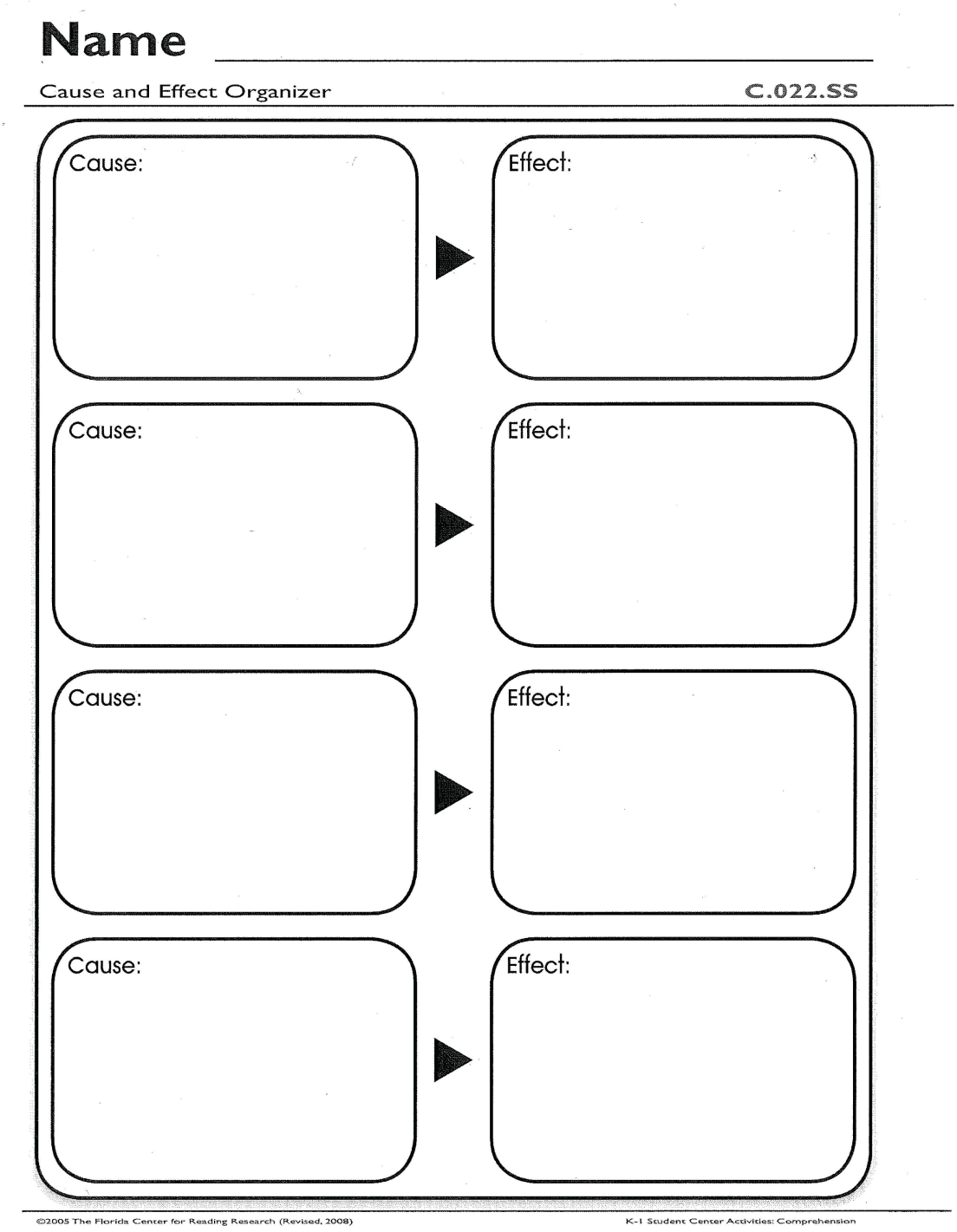
_____ _____

	Strong Grasp 3	**Progressing 2**	**Not in Evidence 1**
Text support of comparison statements	All statements are supported by the text.	Most statements are supported by the text.	Few of none of the statements are supported by the text.
Placement of statements within the graphic organizer	All statements noting similarities are placed in the center box and all statements that note differences are placed in the correct outer box.	Most statements are placed in the correct box, but student mixed up a few statements.	Few statements are placed in the correct box.
Number of quality statements	Student was able to make five or more comparison statements in each box.	Student was able to make 3-4 comparison statements in each box.	Student makes two or fewer comparison statements in the boxes.
Comments:			

Adapted from readwritethink.org (2011)

Appendix C

Cause and Effect Organizer



Appendix D

Cause-And-Effect Graphic Organizer Rubric

Group members: _____

CAUSE-AND-EFFECT GRAPHIC ORGANIZER RUBRIC

	4	3	2	1
Cause-and-effect relationships	At least three cause-and-effect relationships included on graphic organizer	Two cause-and-effect relationships included on graphic organizer	One cause-and-effect relationship included on graphic organizer	No cause-and-effect relationships included on graphic organizer
Clear description	Extremely clear description of the cause-and-effect relationships	Clear description of cause-and-effect relationships	Basic description of cause-and-effect relationships	Minimal description of cause-and-effect relationships
Language conventions	No capitalization, spelling, or punctuation errors	One to three capitalization, spelling, or punctuation errors	Four to six capitalization, spelling, or punctuation errors	More than six capitalization, spelling, or punctuation errors

Comments:

Total score: _____

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Appendix E

America's First People Passage

Name _____ Comparing and contrasting

America's First People

To **compare** *and* **contrast** *ideas in a passage, determine how the ideas are alike and how they are different.*

Native Americans were the first people to live in America. They lived in many different areas of the United States including the Eastern Woodlands and the Southwest.

The Eastern Woodlands Native Americans had a much different lifestyle than those who lived in the Southwest. The Eastern Woodlands encompassed all of the area from what is now the Canadian border down to the Gulf Coast. The area also extended from the East Coast to the Mississippi River. The northern parts of this area had cold winters, and the whole region had warm summers.

The Southwest Native Americans lived in a large, warm, dry area. Today, Arizona, New Mexico, southern Colorado, and northern Mexico make up this area. In the northern part of this region, wind and water created steep-walled canyons, sandy areas, mesas, buttes, and other interesting landforms. In the southern part, the desert land was flat and dry.

The Iroquois, Wampanoag, Cherokee, and Chickasaw are just a few of the major tribes that made their home in the Eastern Woodlands. The Southwest was home to tribes such as the Apache, Navajo, and Pueblo.

Housing was very different for the Native Americans who lived in these two different regions. The Eastern Woodlands natives built a variety of homes, depending on their location. Northern dwellers lived in dome-shaped wigwams covered with sheets of bark or in longhouses. A longhouse was a large, rectangular shelter that was home to a number of related families, each living in its own section. Those in the southeastern area often built villages around a central public square where community events took place.

Many of the Native Americans of the Southwest lived in cliff houses or large, many-storied homes built from rock and a mud-like substance called adobe. These adobe dwellings could house many families.

All of the Native Americans living in both regions ate a lot of corn, beans, and squash. Hunting was important in both regions, but fishing was more significant in the Eastern Woodlands.

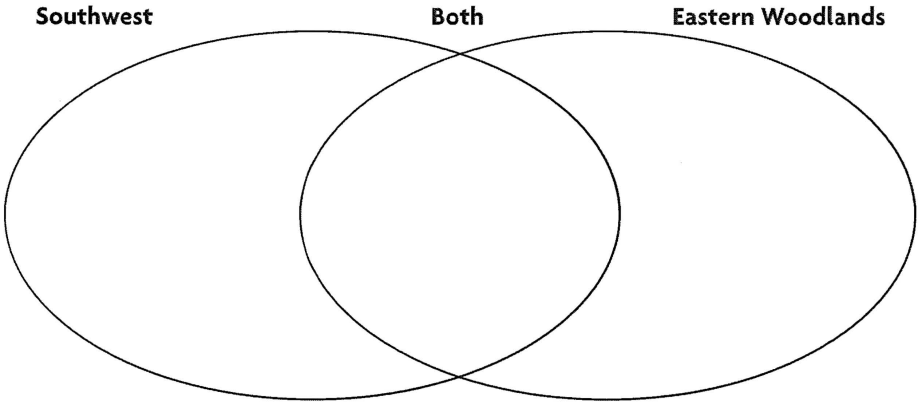
Name _____ **Comparing and contrasting**

The tribes living in both regions were excellent craftspeople. Those in the Eastern Woodlands made pottery, wicker baskets, and deerskin clothing. Many tribes in the Southwest also made pottery and were very skilled at spinning cotton and weaving it into cloth. This cloth was made into breechcloths and cotton kilts for the men and a kind of dress for the women.

Learning about these fascinating people is important as they have played, and continue to play, a valuable role in our country's history.

1. **Fill in the Venn diagram using the descriptions below.**

wigwams and longhouses	excellent craftspeople
made pottery	cold winters, warm summers
hunting	buttes
many-storied homes	Arizona, New Mexico, and southern Colorado
steep-walled canyons	corn, beans, and squash
fishing	Iroquois and Cherokee
Apache and Navajo	bordered what is now Canada



2. **Circle the ways longhouses and adobe houses were alike.**

   large one-family dwellings fairly small multiple-family dwellings

3. **How was the climate in certain parts of the Eastern Woodlands different from other parts in the same region?** _____

_____

Appendix F

Drilling for Alaska's Oil Passage

CONCEPTS OF COMPREHENSION: COMPARE AND CONTRAST 4th GRADE UNIT
Reading Passage

Drilling for Alaska's Oil

The Arctic National Wildlife Refuge (ANWR) is located in northern Alaska. The ANWR is home to polar bears, wolves, caribou, and other animals.

In 1960, the land was made a protected area for animals and plants. But now [2001], President George W. Bush wants to allow companies to begin **drilling for oil**[1] in the ANWR.

ANWR's Oil Would Help the Country

Supporters say that the oil drilling would provide jobs for Alaskans. They also argue that the oil in the ANWR will help lower oil and gasoline prices. They say that taking oil from U.S. land is cheaper than using **foreign**[2] oil.

Today, most of the oil that is used in the United States is **imported**, or brought in from other countries.

Drilling Would Destroy the ANWR

Opponents say the drilling would pollute the area's land, air, and water. **Pollution**[3] would harm the plants that the area's animals eat to survive.

Studies by the U.S. government show there may be only a six-month supply of oil in the ANWR. Opponents believe the risk of polluting the ANWR is not worth such a small supply of oil.

---

[1] **drilling for oil:** to make a hole in the Earth to bring out oil from underground
2 **foreign:** outside the country
[3] **pollution:** the addition of harmful or undesirable substance (such as waste) that spoils nature or makes a natural resource unfit for use

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Appendix G

A "Peachy" Beach Day Passage

Name _____ Identifying cause and effect

A "Peachy" Beach Day

The **cause** *is what makes something happen.*
The **effect** *is what happens as a result of the cause.*

The day was beautiful! Janie and Jake's mom decided to take them to the beach. She even told them that since they had finshed their chores without complaining, they could each bring a friend. Janie and Jake were excited! They loved the beach.

Janie decided to ask Hayley to go since Hayley had just had her over to play last week. Jake asked his friend Charlie—they went everywhere together. Once both friends had arrived, it was time to load up the van. The kids packed some beach toys they might want—shovels, buckets, beach balls, and flippers. Mom packed a cooler with sandwiches and drinks, towels, sunscreen, and a chair for herself.

On the way to the beach, Jake and Charlie groaned. They had forgotten their boogie boards. Oh well! At least they had buckets and shovels they could use to build a huge sandcastle. Jake and Charlie loved to see how big they could make a sandcastle. They even liked to add roads and moats and lots of other details.

Once they reached the beach, everyone helped unload and set up. Then Mom put sunscreen on everyone. It was going to be a hot one—91° with no clouds! Everyone even put on hats.

Right away, the kids started playing. Jake and Charlie started working on their sandcastle, and Janie and Hayley went looking for shells. What a great day!

1. By each cause, write the letter of the effect.

Cause:	Effect:
____ It was a beautiful, hot day.	A. Jake asked Charlie to go to the beach.
____ They forgot their boogie boards.	B. Mom put sunscreen on all the kids.
____ Jake and Charlie go everywhere together.	C. Jake and Charlie were disappointed.

Appendix H

Dead Zone Passage

CONCEPTS OF COMPREHENSION: CAUSE AND EFFECT 4th GRADE UNIT

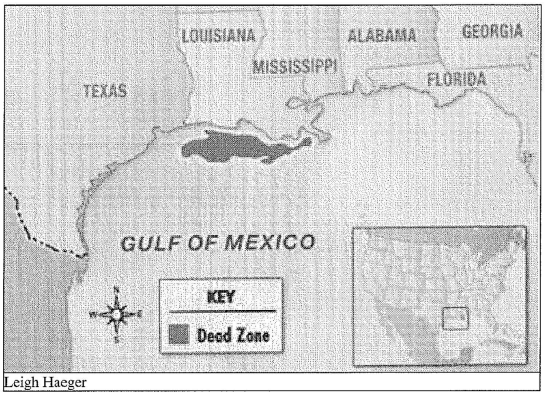
Reading Passage

Dead Zone

Each summer, a "dead zone" creeps across the waters of the Gulf of Mexico off the Texas coast. It's as scary as it sounds--if you're a fish. Spreading 5,000 square miles into the Gulf, the region is empty of life.

What causes the zone of death? Pollution. **Fertilizer**[1] from farms across the Midwest wash into the Mississippi River and flow into the Gulf of Mexico. The fertilizers feed tiny floating **algae**, organisms that make their own food using energy from the sun, as plants do. Huge blooms of algae erupt and use up all the oxygen in the water--oxygen that other sea creatures need to survive.

Some fish are able to swim out of the dead zone before it's too late--but everything else dies.



Leigh Haeger

The Gulf's dead zone has appeared every summer for the last 30 years. This year, however, scientists think the dead zone might have been responsible for shark attacks along Texas beaches. Scientists think the sharks came into shallow waters near the edge of the dead zone in search of food.

In the shallows, the toothy fish came in contact with human swimmers in the wrong place at the wrong time.

[1] **fertilizer:** a substance used to make soil produce larger or more plant life

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Appendix I

Dogs at Work Recording Form

Recording Form ***Dogs at Work*** • LEVEL N • NONFICTION

Student _____ Grade _____ Date _____

Teacher _____ School _____

Recording Form

Part One: Oral Reading

Place the book in front of the student. Read the title and introduction.

Introduction: Guide dogs help blind people in many different ways. Read to find out how they are trained and how they do many important jobs.

Summary of Scores:	
Accuracy	_____
Self-correction	_____
Fluency	_____
Comprehension	_____
Writing	_____

Sources of Information Used

Page	Start Time ____ min. ____ sec. *Dogs at Work* Level N, RW: 222, E: 13	E	SC	E			SC		
				M	S	V	M	S	V
1	Who is your best friend? A best friend can be a classmate, a neighbor, or even a relative. But for some people, their best friend walks on four legs, is covered with fur, and takes them anywhere they need to go. It's a dog! But it's not just any dog—their best friend is a guide dog.								
2	What Are Guide Dogs? Guide dogs help blind people get from place to place and lead								
	Subtotal								

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Part One: Oral Reading *continued*

Page	Text	E	SC	Sources of Information Used: E M	E S	E V	SC M	SC S	SC V
2 *cont.*	independent lives. With a guide dog, blind people can go to the grocery store, ride the bus, or take a trip on a plane. Guide dogs are allowed in places where most other dogs are not. Not just any dog can be a guide dog. A guide dog needs many months of training at a special school. At school they learn to behave quietly, especially in public. Guide dogs have to focus on helping their owners. They are taught to ignore other things, such as interesting smells and other animals.								
	Subtotal								

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Part One: Oral Reading *continued*

Page	Text	E	SC	Sources of Information Used: E M	E S	E V	SC M	SC S	SC V
3	They also learn to keep still and quiet in busy places, such as shopping malls or offices. Most dogs would have a very hard time doing that! Dogs at Work If you see a guide dog doing its job, remember not to pet or talk to it. Guiding is very hard to do. It requires a dog's full attention.								
	Subtotal								
	End Time ____ min. ____ sec. **Total**								

Have the student finish reading the book silently.

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Accuracy Rate	Errors	13	11–12	8–10	6–7	4–5	2–3	0–1
	%	Below 95%	95%	96%	97%	98%	99%	100%

Self-Corrections _____

Fluency Score 0 1 2 3

Fluency Scoring Key

0 Reads primarily word-by-word with occasional but infrequent or inappropriate phrasing; no smooth or expressive interpretation, irregular pausing, and no attention to author's meaning or punctuation; no stress or inappropriate stress, and slow rate.

1 Reads primarily in two-word phrases with some three- and four-word groups and some word-by-word reading; almost no smooth, expressive interpretation or pausing guided by author's meaning and punctuation; almost no stress or inappropriate stress, with slow rate most of the time.

2 Reads primarily in three- or four-word phrase groups; some smooth, expressive interpretation and pausing guided by author's meaning and punctuation; mostly appropriate stress and rate with some slowdowns.

3 Reads primarily in larger, meaningful phrases or word groups; mostly smooth, expressive interpretation and pausing guided by author's meaning and punctuation; appropriate stress and rate with only a few slowdowns.

Reading Rate *(Optional)*

End Time ____ min. ____ sec.
Start Time ____ min. ____ sec.
Total Time ____ min. ____ sec.
Total Seconds ____

(RW × 60) ÷ Total Seconds = Words Per Minute (WPM)
13,320 ÷ _____ = _____ WPM

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Part Two: Comprehension Conversation

Have a conversation with the student, noting the key understandings the student expresses. Use prompts as needed to stimulate discussion of understandings the student does not express. It is not necessary to use every prompt for each book. Score for evidence of all understandings expressed–with or without a prompt. Circle the number in the score column that reflects the level of understanding demonstrated.

Teacher: Talk about what you learned in this book.

Comprehension Scoring Key

- **0** Reflects **unsatisfactory** understanding of the text. Either does not respond or talks off the topic.
- **1** Reflects **limited** understanding of the text. Mentions a few facts or ideas but does not express the important information or ideas.
- **2** Reflects **satisfactory** understanding of the text. Includes important information and ideas but neglects other key understandings.
- **3** Reflects **excellent** understanding of the text. Includes almost all important information and main ideas.

Key Understandings	Prompts	Score
Within the Text		
Tells 3–4 facts about guide dogs, such as: Guide dogs help blind people; they need special training; they help people go many places (gives an example); you should not pet a guide dog; guide dogs wear special harnesses.	Tell what you learned about guide dogs from this book. What else did you learn? Anything else?	0 1 2 3
The glossary helps you know what some of the words in the story mean. For example, *independent* means needing no help from others.	*Text Feature Probe*: Look at the glossary. How does it help you? Give an example of a word from the glossary.	
Note any additional understandings:		
Beyond the Text		
The most important thing about guide dogs is how they help people.	What is the most important thing about guide dogs?	0 1 2 3
Guide dogs do important work because they help blind people be independent.	Do you think guide dogs do important work? Why (not)? What does the writer say that makes you think that?	
Dogs probably like to help their owners and the owners love their dogs.	How do you think guide dogs and their owners probably feel about each other?	
Note any additional understandings:		

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Continued on next page.

Part Two: Comprehension Conversation *continued*

Key Understandings	Prompts	Score
About the Text The writer made the book interesting by (choosing an interesting subject, telling details about guide dogs). The sections and the headings help you know what information you will be reading about. *Note any additional understandings:*	How did the writer make this book interesting? *Text Feature Probe:* Look at the sections and the headings in this book. How do they help you read it?	0 1 2 3

Guide to Total Score
- **9–10 Excellent** Comprehension
- **7–8 Satisfactory** Comprehension
- **5–6 Limited** Comprehension
- **0–4 Unsatisfactory** Comprehension

Subtotal Score: _____/9_____
Add 1 for any additional understandings: _____/1_____
Total Score: _____/10_____

Part Three: Writing About Reading *(optional)*

Read the writing/drawing prompt on the next page to the student. Specify the amount of time for the student to complete the task. (See *Assessment Guide* for more information.)

Writing About Reading
- **0** Reflects **no** understanding of the text.
- **1** Reflects **very limited** understanding of the text.
- **2** Reflects **partial** understanding of the text.
- **3** Reflects **excellent** understanding of the text.

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Appendix J

Snake Myths Recording Form

Recording Form ***Snake Myths*** • Level O • Nonfiction

Student _____ Grade _____ Date _____

Teacher _____ School _____

Recording Form

Part One: Oral Reading

Place the book in front of the student. Read the title and introduction.

Introduction: People tell myths, or stories that might not be true, about snakes. Read to find out about five myths people tell and learn about one of the truths.

Summary of Scores:	
Accuracy	_____
Self-correction	_____
Fluency	_____
Comprehension	_____
Writing	_____

Sources of Information Used

Page	Start Time ____ min. ____ sec. Snake Myths Level O, RW: 223, E: 13	E	SC	E			SC		
				M	S	V	M	S	V
1	Do snakes frighten you, or do you find them interesting? Snakes cause feelings of terror and fascination in many people. This is probably why there are so many stories about snakes. Myth 1 One mistaken story is that snakes can hypnotize their prey. Snakes don't put their victims into a trance, but it might look like they do. Snakes can't blink, because they do not have eyelids that move. So snakes do a lot of staring. But they can not hypnotize other animals.								
	Subtotal								

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Part One: Oral Reading continued

Page	Text	E	SC	Sources of Information Used: E M	E S	E V	SC M	SC S	SC V
1 cont.	Some animals do hold very still if they see a snake. They probably freeze out of fear. They are not hypnotized.								
2	Myth 2 Snakes' tongues can be dangerous. That's another misunderstanding. In fact, only a snake's fangs are harmful. A snake flicks its tongue to smell the air. It can use smells to figure out which way its prey is moving or whether an enemy is near. If a snake flicks its tongue at you, it's just trying to figure out if you're something good to eat. (Don't worry—snakes rarely eat people!)								
	Subtotal								

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Part One: Oral Reading continued

Page	Text	E	SC	Sources of Information Used: E M	E S	E V	SC M	SC S	SC V
3	Myth 3 Some people think that snakes feel wet and slimy. But a snake's skin is really very dry and smooth. This smoothness makes a snake's skin look shiny and wet. The way a snake's scales move, sliding along the ground, may also make them look slimy.								
	Subtotal								
	End Time ____ min. ____ sec. **Total**								

Have the student finish reading the book silently.

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Accuracy Rate	Errors	13	11–12	8–10	6–7	4–5	2–3	0–1
	%	Below 95%	95%	96%	97%	98%	99%	100%

Self-Corrections _____

Fluency Score 0 1 2 3

Fluency Scoring Key

0 Reads primarily word-by-word with occasional but infrequent or inappropriate phrasing; no smooth or expressive interpretation, irregular pausing, and no attention to author's meaning or punctuation; no stress or inappropriate stress, and slow rate.

1 Reads primarily in two-word phrases with some three- and four-word groups and some word-by-word reading; almost no smooth, expressive interpretation or pausing guided by author's meaning and punctuation; almost no stress or inappropriate stress, with slow rate most of the time.

2 Reads primarily in three- or four-word phrase groups; some smooth, expressive interpretation and pausing guided by author's meaning and punctuation; mostly appropriate stress and rate with some slowdowns.

3 Reads primarily in larger, meaningful phrases or word groups; mostly smooth, expressive interpretation and pausing guided by author's meaning and punctuation; appropriate stress and rate with only a few slowdowns.

Reading Rate (Optional)

End Time ____ min. ____ sec.
Start Time ____ min. ____ sec.
Total Time ____ min. ____ sec.
Total Seconds ____

(RW × 60) ÷ Total Seconds = Words Per Minute (WPM)
13,380 ÷ _____ = _____ WPM

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Part Two: Comprehension Conversation

Have a conversation with the student, noting the key understandings the student expresses. Use prompts as needed to stimulate discussion of understandings the student does not express. It is not necessary to use every prompt for each book. Score for evidence of all understandings expressed—with or without a prompt. Circle the number in the score column that reflects the level of understanding demonstrated.

Teacher: Talk about what you learned in this book.

Comprehension Scoring Key

- **0** Reflects **unsatisfactory** understanding of the text. Either does not respond or talks off the topic.
- **1** Reflects **limited** understanding of the text. Mentions a few facts or ideas but does not express the important information or ideas.
- **2** Reflects **satisfactory** understanding of the text. Includes important information and ideas but neglects other key understandings.
- **3** Reflects **excellent** understanding of the text. Includes almost all important information and main ideas.

Key Understandings	Prompts	Score
Within the Text Tells 2–3 snake myths and the one important truth at the end, such as: Snakes don't hypnotize people; snakes' tongues can be dangerous; snakes are not slimy; snakes have bones; not all snakes are poisonous; snakes do not want to harm people. The photograph on page 2 shows that snakes have clear scales over their eyes. *Note any additional understandings:*	What are some of the myths about snakes? Can you tell some more? What is true about snakes? *Text Feature Probe*: Tell what you learned from the photograph on page 2.	0 1 2 3
Beyond the Text Many people are afraid of snakes because they believe all the myths about them. There are reasons for all of the myths, but they are not true. (Gives an example.) *Note any additional understandings:*	Why do you think people are afraid of snakes? Why do you think people believe the myths? Can you give an example from the book?	0 1 2 3

Continued on next page.

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Part Two: Comprehension Conversation continued

Key Understandings	Prompts	Score
About the Text Snake Myths is a good title for this book because it lets you know there are some things that are not true. Myths are stories that are not true. The writer ends with the most important thing to know about snakes—that they don't want to hurt us and we should leave them alone. *Note any additional understandings:*	Why is the title, Snake Myths, a good one for this book? What does the word "myth" mean in this book? Look at the last section. What did the writer want you to learn from this book?	0 1 2 3

Guide to Total Score
- **9–10 Excellent** Comprehension
- **7–8 Satisfactory** Comprehension
- **5–6 Limited** Comprehension
- **0–4 Unsatisfactory** Comprehension

Subtotal Score: _____/9_____

Add 1 for any additional understandings: _____/1_____

Total Score: _____/10_____

Part Three: Writing About Reading (optional)

Read the writing/drawing prompt on the next page to the student. Specify the amount of time for the student to complete the task. (See *Assessment Guide* for more information.)

Writing About Reading
- **0** Reflects **no** understanding of the text.
- **1** Reflects **very limited** understanding of the text.
- **2** Reflects **partial** understanding of the text.
- **3** Reflects **excellent** understanding of the text.

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Appendix K

AIMSweb MAZE Assessment Form

Alex loved to visit his Great Aunt Heidi because she had a library filled with books. The library's shelves held books on **(read, once, every)** subject. There were books on rocks **(that, and, if)** books on clocks. There were books **(on, in, you)** mountains and books on fountains. But **(at, all, the)** one thing that made Aunt Heidi's **(perfect, library, ladder)** really special was the library's elves.

(Whenever, Airplane, Library) elves are rare little creatures. Most **(books, people, several)** think they are extinct, but a **(or, his, few)** still exist. Many of them live **(behind, peaches, resolve)** the books on the shelves of **(spoke, you, Aunt)** Heidi's library.

Alex discovered the elves **(were, one, ever)** blustery winter afternoon when he was **(republic, language, searching)** the shelves for a book about **(reaching, airplanes, frightened)**. He'd climbed all the way to **(felt, an, the)** top of the library ladder and **(were, was, on)** straining to reach a thick book, **(there, him, when)** suddenly he heard a voice. It **(to, was, be)** a warm and friendly voice.

"Here **(you, it, for)** go," the voice said, and Alex **(look, felt, they)** the book he'd been reaching for **(that, made, pop)** into his hands. Alex tumbled off **(an, my, the)** ladder. He would have hit the **(colors, stone, chair)** floor with a hard thud had **(see, it, to)** not been for the library elf's **(magic, them, with)**. The elf cast a magic spell **(fury, that, rug)** stopped him an inch from the **(creature, dictate, ground)** and then set him down gently.

"(Timid, Thanks, You're)," Alex said to the little elf. **"(At, Me, I)** owe you one."

The elf peered **(down, winter, repel)** from his shelf at Alex. He **(read, voice, wore)** a felt cap and a sweater **(tumbled, knitted, ladders)** in several colors. "Yes, you do," **(an, the, him)** elf said. "I would like you **(he, at, to)** read that book to me."

Alex **(detach, looked, lived)** at the book in his hands. **(He'd, You, Top)** forgotten all about airplanes when the **(book, some, elf)** first spoke to him.

"Okay," Alex **(have, said, the)**. Then he sat down in a **(reach, cushy, stone)** chair in front of the fire **(sit, or, and)** started to read. He read several **(rocking, onetime, chapters)** without looking up. When he finally **(looked, thicker, friend)** up, he saw a dozen library **(books, elves, rocks)** sitting on the braided rug in **(with, behind, front)** of him. All of the elves **(was, but, were)** listening intently.

"Don't stop," they told **(him, his, new)**. "Read, read, read."

Alex read to **(thick, them, his)** long into the night. He finished **(bit, were, the)** book and looked up to find **(all, the, an)** library elves were gone. They had **(friendly, knuckle, vanished)** as soon as he had read **(for, the, was)** last word on the last page.

Alex loved to
5P04

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